<400> 3885

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<211> 277
<212> PRT
<213> Homo sapiens

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Gly Ala Gly Gly Ser Ile Thr Ser Val Asp Phe Asp Pro Ser Gly Tyr
            35   40   45
Gln Val Leu Ala Ala Thr Tyr Asn Gln Ala Ala Gln Leu Trp Lys Val
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Gly Glu Ala Gln Ser Lys Glu Thr Leu Ser Gly His Lys Asp Lys Val
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Thr Ala Ala Lys Phe Lys Leu Thr Arg His Gln Ala Val Thr Gly Ser
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Arg Asp Arg Thr Val Lys Glu Trp Asp Leu Gly Arg Ala Tyr Cys Ser
            100   105   110
Arg Thr Ile Asn Val Leu Ser Tyr Cys Asn Asp Val Val Xaa Trp Gly
            115   120   125
Pro Tyr His His Xaa Ser Gly His Asn Asp Gln Lys Ile Arg Phe Trp
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Asp Ser Xaa Gly Gly Pro Thr Ala Pro Arg Ser Ser Leu Xaa Gln Gly
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Arg Val Thr Ser Leu Ser Leu Ser Xaa Arg Pro Thr Xaa His Leu Leu
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Ser Cys Ser Arg Asp Asn Thr Leu Lys Val Ile Asp Leu Arg Val Ser
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Asn Ile Arg Gln Val Phe Arg Ala Asp Gly Phe Lys Cys Gly Ser Asp
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Trp Thr Lys Ala Val Phe Ser Pro Asp Arg Ser Tyr Ala Leu Ala Gly
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Ser Cys Asp Gly Ala Leu Tyr Ile Trp Asp Val Asp Thr Gly Lys Leu
225   230   235   240
Glu Ser Arg Leu Gln Gly Pro His Cys Ala Ala Val Asn Ala Val Ala
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<210> 3887
<211> 5612
<212> DNA
<213> Homo sapiens

<400> 3887

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<210> 3888
<211> 1230
<212> PRT
<213> Homo sapiens

<400> 3888
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Glu Leu Gln Lys Asp Ser Ile Lys Leu Asp Asp Asp Ser Glu Arg Lys
        35   40   45
Val Val Lys Met Ile Leu Lys Leu Leu Glu Asp Lys Asn Gly Glu Val
    50   55   60
Gln Asn Leu Ala Val Lys Cys Leu Gly Pro Leu Val Ser Lys Val Lys
65   70   75   80
Glu Tyr Gln Val Glu Thr Ile Val Asp Thr Leu Cys Thr Asn Met Leu
                85   90   95
Ser Asp Lys Glu Gln Leu Arg Asp Ile Ser Ser Ile Gly Leu Lys Thr
            100   105   110
Val Ile Gly Glu Leu Pro Pro Ala Ser Ser Gly Ser Ala Leu Ala Ala
        115   120   125
Asn Val Cys Lys Lys Ile Thr Gly Arg Leu Thr Ser Ala Ile Ala Lys
    130   135   140
Gln Glu Asp Val Ser Val Gln Leu Glu Ala Leu Asp Ile Met Ala Asp
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Met Leu Ser Arg Gln Gly Gly Leu Leu Val Asn Phe His Pro Ser Ile

3034

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Lys Arg Thr Ile Ile Ala Leu Gly His Leu Val Met Ser Cys Gly Asn
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Ile Val Phe Val Asp Leu Ile Glu His Leu Leu Ser Glu Leu Ser Lys
        210                   215                   220
Asn Asp Ser Met Ser Thr Thr Arg Thr Tyr Ile Gln Cys Ile Ala Ala
225                   230                   235                   240
Ile Ser Arg Gln Ala Gly His Arg Ile Gly Glu Tyr Leu Glu Lys Ile
            245                   250                   255
Ile Pro Leu Val Val Lys Phe Cys Asn Val Asp Asp Asp Glu Leu Arg
            260                   265                   270
Glu Tyr Cys Ile Gln Ala Phe Glu Ser Phe Val Arg Arg Cys Pro Lys
        275                   280                   285
Glu Val Tyr Pro His Val Ser Thr Ile Ile Asn Ile Cys Leu Lys Tyr
        290                   295                   300
Leu Thr Tyr Asp Pro Asn Tyr Asn Tyr Asp Asp Glu Asp Glu Asp Glu
305                   310                   315                   320
Asn Ala Met Asp Ala Asp Gly Gly Asp Asp Asp Gln Gly Ser Asp
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Asp Glu Tyr Ser Asp Asp Asp Asp Met Ser Trp Lys Val Arg Arg Ala
            340                   345                   350
Ala Ala Lys Cys Leu Asp Ala Val Val Ser Thr Arg His Glu Met Leu
        355                   360                   365
Pro Glu Phe Tyr Lys Thr Val Ser Pro Ala Leu Ile Ser Arg Phe Lys
        370                   375                   380
Glu Arg Glu Glu Asn Val Lys Ala Asp Val Phe His Ala Tyr Leu Ser
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Leu Leu Lys Gln Thr Arg Pro Val Gln Ser Trp Leu Cys Asp Pro Asp
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Ala Met Glu Gln Gly Glu Thr Pro Leu Thr Met Leu Gln Ser Gln Val
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Pro Asn Ile Val Lys Ala Leu His Lys Gln Met Lys Glu Lys Ser Val
            435                   440                   445
Lys Thr Arg Gln Cys Cys Phe Asn Met Leu Thr Glu Leu Val Asn Val
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Leu Pro Gly Ala Leu Thr Gln His Ile Pro Val Leu Val Pro Gly Ile
465                   470                   475                   480
Ile Phe Ser Leu Asn Asp Lys Ser Ser Ser Asn Leu Lys Ile Asp
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Ala Leu Ser Cys Leu Tyr Val Ile Leu Cys Asn His Ser Pro Gln Val
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Phe His Pro His Val Gln Ala Leu Val Pro Pro Val Val Ala Cys Val
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Gly Asp Pro Phe Tyr Lys Ile Thr Ser Glu Ala Leu Leu Val Thr Gln
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Gln Leu Val Lys Val Ile Arg Pro Leu Asp Gln Pro Ser Ser Phe Asp
545                   550                   555                   560
Ala Thr Pro Tyr Ile Lys Asp Leu Phe Thr Cys Thr Ile Lys Arg Leu
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Lys Ala Ala Asp Ile Asp Gln Glu Val Lys Glu Arg Ala Ile Ser Cys
            580                   585                   590
Met Gly Gln Ile Ile Cys Asn Leu Gly Asp Asn Leu Gly Ser Asp Leu
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    625                    630                    635                    640
    Lys Ile Asp Leu Arg Pro Val Leu Gly Glu Gly Val Pro Ile Leu Ala
                        645                    650                    655
    Ser Phe Leu Arg Lys Asn Gln Arg Ala Leu Lys Leu Gly Thr Leu Ser
                   660                    665                    670
    Ala Leu Asp Ile Leu Ile Lys Asn Tyr Ser Asp Ser Leu Thr Ala Ala
              675                    680                    685
    Met Ile Asp Ala Val Leu Asp Glu Leu Pro Pro Leu Ile Ser Glu Ser
         690                    695                    700
    Asp Met His Val Ser Gln Met Ala Ile Ser Phe Leu Thr Thr Leu Ala
    705                    710                    715                    720
    Lys Val Tyr Pro Ser Ser Leu Ser Lys Ile Ser Gly Ser Ile Leu Asn
                        725                    730                    735
    Glu Leu Ile Gly Leu Val Arg Ser Pro Leu Leu Gln Gly Gly Ala Leu
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    Ser Ala Met Leu Asp Phe Phe Gln Ala Leu Val Val Thr Gly Thr Asn
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    Asn Leu Gly Tyr Met Asp Leu Leu Arg Met Leu Thr Gly Pro Val Tyr
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    785                    790                    795                    800
    Lys Cys Val Ala Ala Leu Thr Arg Ala Cys Pro Lys Glu Gly Pro Ala
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    Val Val Gly Gln Phe Ile Gln Asp Val Lys Asn Ser Arg Ser Thr Asp
                   820                    825                    830
    Ser Ile Arg Leu Leu Ala Leu Leu Ser Leu Gly Glu Val Gly His His
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    Ile Asp Leu Ser Gly Gln Leu Glu Leu Lys Ser Val Ile Leu Glu Ala
         850                    855                    860
    Phe Ser Ser Pro Ser Glu Glu Val Lys Ser Ala Ala Ser Tyr Ala Leu
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    Gly Ser Ile Ser Val Gly Asn Leu Pro Glu Tyr Leu Pro Phe Val Leu
                        885                    890                    895
    Gln Glu Ile Thr Ser Gln Pro Lys Arg Gln Tyr Leu Leu Leu His Ser
                   900                    905                    910
    Leu Lys Glu Ile Ile Ser Ser Ala Ser Val Val Gly Leu Lys Pro Tyr
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    Val Glu Asn Ile Trp Ala Leu Leu Leu Lys His Cys Glu Cys Ala Glu
         930                    935                    940
    Glu Gly Thr Arg Asn Val Val Ala Glu Cys Leu Gly Lys Leu Thr Leu
    945                    950                    955                    960
    Ile Asp Pro Glu Thr Leu Leu Pro Arg Leu Lys Gly Tyr Leu Ile Ser
                        965                    970                    975
    Gly Ser Ser Tyr Ala Arg Ser Ser Val Val Thr Ala Val Lys Phe Thr
                   980                    985                    990
    Ile Ser Asp His Pro Gln Pro Ile Asp Pro Leu Leu Lys Asn Cys Ile
              995                    1000                   1005
    Gly Asp Phe Leu Lys Thr Leu Glu Asp Pro Asp Leu Asn Val Arg Arg
         1010                   1015                   1020
    Val Ala Leu Val Thr Phe Asn Ser Ala Ala His Asn Lys Pro Ser Leu
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      His Thr Val Asp Asp Gly Leu Asp Ile Arg Lys Ala Ala Phe Glu Cys
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      Met Tyr Thr Leu Leu Asp Ser Cys Leu Asp Arg Leu Asp Ile Phe Glu
                    1090                    1095                    1100
      Phe Leu Asn His Val Glu Asp Gly Leu Lys Asp His Tyr Asp Ile Lys
      1105                    1110                    1115                    1120
      Met Leu Thr Phe Leu Met Leu Val Arg Leu Ser Thr Leu Cys Pro Ser
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      Ala Val Leu Gln Arg Leu Asp Arg Leu Val Glu Pro Leu Arg Ala Thr
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      Cys Thr Thr Lys Val Lys Ala Asn Ser Val Lys Gln Glu Phe Glu Lys
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      Thr Ile Pro Glu Ala Glu Lys Ser Pro Leu Met Ser Glu Phe Gln Ser
      1185                    1190                    1195                    1200
      Gln Ile Ser Ser Asn Pro Glu Leu Ala Ala Ile Phe Glu Ser Ile Gln
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<210> 3889
<211> 556
<212> DNA
<213> Homo sapiens

<400> 3889
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556
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<210> 3890

<211> 101
<212> PRT
<213> Homo sapiens

<400> 3890
Ala Leu Pro Gly Pro Ser Leu Asp Gln Trp His Arg Ser Ala Gly Glu
1   5   10   15
Glu Glu Asp Gly Pro Val Leu Thr Asp Glu Gln Val Pro Asn Pro Gly
            20   25   30
His Glu Ala His Asp Gln Gly Gly Trp Asp Ala Arg Gln Ser Ile Ile
        35   40   45
Arg Lys Val Val Asp Pro Glu Thr Gly Arg Thr Arg Leu Ile Lys Gly
    50   55   60
Asp Gly Glu Val Leu Glu Glu Ile Val Thr Lys Glu Arg His Arg Glu
65   70   75   80
Ile Asn Lys Gln Ala Thr Arg Gly Asp Cys Leu Ala Phe Gln Met Arg
                85   90   95
Ala Gly Leu Leu Pro
                100

<210> 3891
<211> 1687
<212> DNA
<213> Homo sapiens

<400> 3891
ncctaggcta cacagaccgt gtggtgcgag ctttccgctg ggaggagcta ggtgagggtc
60
ctgaacatct ggccgtatcc acaacaagaa tgtctccact cacctaattg gcaacatcaa
120
acaggccacg gcactgagag tagtggctct ggcctctttg ccctgtgcac cctggatggg
180
acactgaagc tcatggaaga aatggaagaa gcagacaagc tgctgtggtc agtgcaggtg
240
gatcaccagc tctttgccct ggagaaactg gatgtcaccg gcaacgggca tgaggaggta
300
gttgcatgcg cctgggatgg acagacatat atcattgatc acaaccgcac cgtcgtccgc
360
ttccaagtgg atgaaaatat ccgtgccttc tgtgcaggcc tgtacgcctg caaagagggc
420
cgcaacagcc cctgcctcgt atatgtcact ttcaaccaga agatctatgt gtactgggag
480
gtgcagctgg agcggatgga gtctaccaat ctggtgaaac tgctggagac caagccgagt
540
accacagcct gctgcaggag ctgggcgtgg atcctgacga cctccctgtg actcgtgccc
600
tgcttcacca aacgctctac catccagacc agccaccaca gtgtgctccc tcaagcctcc
660
aggatcccac ctagctgtac ttgcctcata gctggtgaag gattcttctg aacccccacc
720
ctacccccta aaggtatctg tggtattggc aggatagggg atatgcatta cagaaatgca
780
ggatttgact ctgggcatga aagatggcag cagccctagg gtgaccgtga actatagacc
840

```
tcgcagtctt ttcggtgaaa gaagagacaa gttgaccctc tgcccatttc cttatggacc
900
tcacccatca tgccagcagg gtcataggac ctggccttgt tccaaatcat ctgggacatg
960
acccactccc cactgtcact gtgttgaaaa cagagacttg tttgtgtggc cccaacaccc
1020
ataaggaaac caggctttag gcccagggga gcagtggagg taagggctcc accccatctt
1080
aagctctgtc ttccgtggca caattccaag ttcttgacgt tagtaattgt taaaggaatg
1140
gcaaactgtt ttgttttgaa ggatctttct acagtctggt cttacccatg ttcctagcaa
1200
ccctgagatg attttcttcc atttaccaaa gcagccgggt cagtgctttc tcacgttgcc
1260
gtattcttca ggtattagtc agcttcagaa gccctgctcc catttttcca cccacccatt
1320
cccccataaa acagcttatt gtctccaaga caatagacat ttaaaatgtg atgcgggttt
1380
atgatccaga ccacaatcag aattatatct tgggtcattt atgtgccgtc tgttcttgat
1440
tctctatgct ctaaatcggt gtttttcaaa ctgtggttgc agtcctttgg tggattatgg
1500
ccagcatttt ttaaataggt agaatagaat aaagtaaaat agaaaatagc agagtacatt
1560
gctctcagtg taggtaagta ttgtttttgtt agtcatatgt gcatgtgtgt actgagtgcc
1620
atgtaaaatg tattcctgct gtggtaagct gtggtcgagg agtttgaaag ccattgcttt
1680
caaattc
1687
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<210> 3892
<211> 179
<212> PRT
<213> Homo sapiens

<400> 3892

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Val Arg Val Leu Asn Ile Trp Pro Tyr Pro Gln Gln Glu Cys Leu His
1               5                   10                  15
Ser Pro Asn Trp Gln His Gln Thr Gly His Gly Thr Glu Ser Ser Gly
            20                  25                  30
Ser Gly Leu Phe Ala Leu Cys Thr Leu Asp Gly Thr Leu Lys Leu Met
        35                  40                  45
Glu Glu Met Glu Glu Ala Asp Lys Leu Leu Trp Ser Val Gln Val Asp
    50                  55                  60
His Gln Leu Phe Ala Leu Glu Lys Leu Asp Val Thr Gly Asn Gly His
65                  70                  75                  80
Glu Glu Val Val Ala Cys Ala Trp Asp Gly Gln Thr Tyr Ile Ile Asp
                85                  90                  95
His Asn Arg Thr Val Val Arg Phe Gln Val Asp Glu Asn Ile Arg Ala
            100                 105                 110
Phe Cys Ala Gly Leu Tyr Ala Cys Lys Glu Gly Arg Asn Ser Pro Cys
        115                 120                 125
Leu Val Tyr Val Thr Phe Asn Gln Lys Ile Tyr Val Tyr Trp Glu Val
```

```
        130                  135                  140
Gln Leu Glu Arg Met Glu Ser Thr Asn Leu Val Lys Leu Leu Glu Thr
145                  150                  155                  160
Lys Pro Ser Thr Thr Ala Cys Cys Arg Ser Trp Ala Trp Ile Leu Thr
                    165                  170                  175
Thr Ser Leu
```

<210> 3893
<211> 1591
<212> DNA
<213> Homo sapiens

<400> 3893
cgcgttctgc agaagttaga tgacgatgga ttgccgttta taggagcaaa actgcagtac
60
ggagatccgt attacagcta cctcaacctc aacaccgggg aaagttttgt gatgtactat
120
aagagtaaag aaaattgtgt tgtggataac atcaaagtgt gcagtaatga cactgggagt
180
ggaaaattca agtgtgtttg catcactatg agagtgcctc ggaacccaac tatcggagat
240
aaatttgcca gtcgccatgg gcagaagggc attttaagca gattgtggcc ggctgaggac
300
atgccttttta ctgagagtgg gatggtccca gacattctgt tcaatcccca tggtttttcca
360
tcccgcatga ccattgggat gttaattgag agtatggccg ggaagtctgc agctttgcat
420
ggtctctgcc atgatgctac acccttcatc ttctcagagg agaactcggc cttagaatac
480
tttggtgaga tgttaaaggc tgctggctac aatttctatg gcaccgagag gttatatagt
540
ggcatcagtg ggctagaact ggaagcagac atcttcatag gagtggtttta ttatcagcgc
600
ttacgccata tggtctcaga caaatttcaa gtaaggacaa ctggagcccg agacagagtc
660
accaaccagc ctattggggg aagaaatgtc cagggtggaa tccgtttttgg ggagatggaa
720
cgggatgcgc tttttagctca tggtacatct tttctccttc atgaccgcct cttcaactgc
780
tcagatcggt cggtagccca tgtgtgtgtg aagtgtggca gtttactctc tccactgttg
840
gagaagccac ccccttcttg gtctgccatg cgcaacagaa aatacaactg tactctgtgt
900
agtcgcagtg acactatcga tactgtttct gtgccttatg ttttttcggta ttttgtagct
960
gaactggcag ctatgaacat caaagtgaaa ctggatgttg tttaacttga tgttgacctt
1020
ttggattaag aggactatca gattaaagca aaatgtaatt ttaattcaat gaagatatca
1080
ttaccaggtt actcttgaga ttttttcaacg gtgttagaac tctcaaccaa gacctgaaaa
1140
ccaagtatgc aaggtttctg aatctctctg gtagattaac tattgacaat gattttctgt
1200
```

```
tatctttgtt caaaaagttc atgtcttctc aaaatatgaa atattgataa atggaagagc
1260
atacggtgac aagtctcctt tccaacccca ggttccctac accctgctct cagcaggcag
1320
tgagtgtcac acacctgtta atccatcttg agcaggacag tactatacaa atagaatgca
1380
agctgtaatg taattttata ttttcttata gccacgttga agtaaaaaca aacaggtaca
1440
gtgtttttta ccagctttat agaagtacag ttgttacata tttaatgaat acaatttgat
1500
gggtctgact atatgcacac acctttgata ccatcaccac aatcagggta ataaacatac
1560
ctgtcatctc caaaaaaaaa aaaaaaaaa a
1591


<210> 3894
<211> 334
<212> PRT
<213> Homo sapiens


<400> 3894
Arg Val Leu Gln Lys Leu Asp Asp Asp Gly Leu Pro Phe Ile Gly Ala
1               5                   10                  15
Lys Leu Gln Tyr Gly Asp Pro Tyr Tyr Ser Tyr Leu Asn Leu Asn Thr
            20                  25                  30
Gly Glu Ser Phe Val Met Tyr Tyr Lys Ser Lys Glu Asn Cys Val Val
            35                  40                  45
Asp Asn Ile Lys Val Cys Ser Asn Asp Thr Gly Ser Gly Lys Phe Lys
        50                  55                  60
Cys Val Cys Ile Thr Met Arg Val Pro Arg Asn Pro Thr Ile Gly Asp
65                  70                  75                  80
Lys Phe Ala Ser Arg His Gly Gln Lys Gly Ile Leu Ser Arg Leu Trp
                85                  90                  95
Pro Ala Glu Asp Met Pro Phe Thr Glu Ser Gly Met Val Pro Asp Ile
                100                 105                 110
Leu Phe Asn Pro His Gly Phe Pro Ser Arg Met Thr Ile Gly Met Leu
            115                 120                 125
Ile Glu Ser Met Ala Gly Lys Ser Ala Ala Leu His Gly Leu Cys His
        130                 135                 140
Asp Ala Thr Pro Phe Ile Phe Ser Glu Glu Asn Ser Ala Leu Glu Tyr
145                 150                 155                 160
Phe Gly Glu Met Leu Lys Ala Ala Gly Tyr Asn Phe Tyr Gly Thr Glu
                165                 170                 175
Arg Leu Tyr Ser Gly Ile Ser Gly Leu Glu Leu Glu Ala Asp Ile Phe
                180                 185                 190
Ile Gly Val Val Tyr Tyr Gln Arg Leu Arg His Met Val Ser Asp Lys
            195                 200                 205
Phe Gln Val Arg Thr Thr Gly Ala Arg Asp Arg Val Thr Asn Gln Pro
        210                 215                 220
Ile Gly Gly Arg Asn Val Gln Gly Gly Ile Arg Phe Gly Glu Met Glu
225                 230                 235                 240
Arg Asp Ala Leu Leu Ala His Gly Thr Ser Phe Leu Leu His Asp Arg
                245                 250                 255
Leu Phe Asn Cys Ser Asp Arg Ser Val Ala His Val Cys Val Lys Cys
```

```
                 260              265              270
     Gly Ser Leu Leu Ser Pro Leu Leu Glu Lys Pro Pro Pro Ser Trp Ser
             275              280              285
     Ala Met Arg Asn Arg Lys Tyr Asn Cys Thr Leu Cys Ser Arg Ser Asp
         290              295              300
     Thr Ile Asp Thr Val Ser Val Pro Tyr Val Phe Arg Tyr Phe Val Ala
     305              310              315              320
     Glu Leu Ala Ala Met Asn Ile Lys Val Lys Leu Asp Val Val
                 325              330
```

<210> 3895
<211> 1227
<212> DNA
<213> Homo sapiens

<400> 3895
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aagactttgc gagtggtagt ctatgaagaa gaggaagagg atggcaccct gaaacagcac
60
aaagaagcca agcgcttcga aatcgctagg tctcaacctg aagacacccc tgaaaacaca
120
gtgaggaggc aagagcagcc cagcattgag agtacatctc cgatttcaag aactgatgaa
180
attagaaaaa acacctacag aacattggat agcctggagc agaccattaa acagctcgaa
240
aatacaatca gtgaaatgag tcccaaagcc ctagttgata cctcatgttc ttccaacaga
300
gattctgttg caagttcatc ccacatagcc caagaggcct ctccccgacc cttgctagtt
360
ccggatgaag gtcccactgc cctagagccc ctacgtcga taccttcagc ttcacgtaag
420
ggctccagcg gggccccaca gacgagcagg atgcctgtcc ccatgagtgc caagaacaga
480
cccggaaccc tggacaaacc cggcaagcag tccaaactgc aggatccccg ccaatatcgt
540
caggctaatg gaagtgctaa gaaatctggt ggggacttta gcctacttc ccctccttta
600
cctgcttcta agattccagc cctttctccc agctctggga aaagcagttc tctgccctct
660
tctagtggtg acagctctaa cctccctaat ccacctgcta ctaaaccatc gattgcttct
720
aaccctctca gcccccaaac aggaccacct gctcactctg cctccctcat cccttctgtc
780
tctaatggct ctttgaagtt tcagagcctc actcatacag gtaaaggtca ccatctttca
840
ttctcaccgc agagtcaaaa tggccgagca ccccctcctt tgtcattttc ctcctcccct
900
ccttctcctg cctcctccgt ctcactgaat caaggtgcca agggcaccag gaccatccat
960
actcccagcc tcaccagcta caaggcacag aatggaagtt caagcaaagc cacccccatcc
1020
acagcaaaag aaacctctta aaggtcaaat cctattaggc acaagtcgga gttacattta
1080
aaaaaaatta acagtctaca caactgtttt tcacaagaga atgtaacata ttgctgtatc
1140
```

```
gtttgaggct taatgctaaa tatgtgctaa atactggatt aatagatttc agtaaagctc
1200
gttcaaaaaa aaaaaaaaaa aaaaaaa
1227
```

<210> 3896
<211> 346
<212> PRT
<213> Homo sapiens

<400> 3896

```
Lys Thr Leu Arg Val Val Val Tyr Glu Glu Glu Glu Glu Asp Gly Thr
1               5                   10                  15
Leu Lys Gln His Lys Glu Ala Lys Arg Phe Glu Ile Ala Arg Ser Gln
            20                  25                  30
Pro Glu Asp Thr Pro Glu Asn Thr Val Arg Arg Gln Glu Gln Pro Ser
            35                  40                  45
Ile Glu Ser Thr Ser Pro Ile Ser Arg Thr Asp Glu Ile Arg Lys Asn
        50                  55                  60
Thr Tyr Arg Thr Leu Asp Ser Leu Glu Gln Thr Ile Lys Gln Leu Glu
65                  70                  75                  80
Asn Thr Ile Ser Glu Met Ser Pro Lys Ala Leu Val Asp Thr Ser Cys
                85                  90                  95
Ser Ser Asn Arg Asp Ser Val Ala Ser Ser Ser His Ile Ala Gln Glu
            100                 105                 110
Ala Ser Pro Arg Pro Leu Leu Val Pro Asp Glu Gly Pro Thr Ala Leu
            115                 120                 125
Glu Pro Pro Thr Ser Ile Pro Ser Ala Ser Arg Lys Gly Ser Ser Gly
        130                 135                 140
Ala Pro Gln Thr Ser Arg Met Pro Val Pro Met Ser Ala Lys Asn Arg
145                 150                 155                 160
Pro Gly Thr Leu Asp Lys Pro Gly Lys Gln Ser Lys Leu Gln Asp Pro
                165                 170                 175
Arg Gln Tyr Arg Gln Ala Asn Gly Ser Ala Lys Lys Ser Gly Gly Asp
                180                 185                 190
Phe Lys Pro Thr Ser Pro Ser Leu Pro Ala Ser Lys Ile Pro Ala Leu
            195                 200                 205
Ser Pro Ser Ser Gly Lys Ser Ser Ser Leu Pro Ser Ser Ser Gly Asp
        210                 215                 220
Ser Ser Asn Leu Pro Asn Pro Pro Ala Thr Lys Pro Ser Ile Ala Ser
225                 230                 235                 240
Asn Pro Leu Ser Pro Gln Thr Gly Pro Pro Ala His Ser Ala Ser Leu
            245                 250                 255
Ile Pro Ser Val Ser Asn Gly Ser Leu Lys Phe Gln Ser Leu Thr His
            260                 265                 270
Thr Gly Lys Gly His His Leu Ser Phe Ser Pro Gln Ser Gln Asn Gly
            275                 280                 285
Arg Ala Pro Pro Pro Leu Ser Phe Ser Ser Ser Pro Pro Ser Pro Ala
        290                 295                 300
Ser Ser Val Ser Leu Asn Gln Gly Ala Lys Gly Thr Arg Thr Ile His
305                 310                 315                 320
Thr Pro Ser Leu Thr Ser Tyr Lys Ala Gln Asn Gly Ser Ser Ser Lys
                325                 330                 335
Ala Thr Pro Ser Thr Ala Lys Glu Thr Ser
```

                340   345

<210> 3897
<211> 366
<212> DNA
<213> Homo sapiens

<400> 3897
gccctgtggt ccggtccaga ccagggtgag gcatggagga ggctctgcac agccatttgc
60
agctcagcca gcaccgggtg atggcaggga ggcctgggct tctgcactgg cttctggcct
120
cttctgggca cccacgcttt gtccatgaat ggaaagcaat gctgacggct gcccaatgtg
180
tccaggacgt ttctgaaact cctgttcctc tccccgtccc tctctctgtc ccactgtcca
240
cctcagtgac ctcctctctt cgtggctctc accccacact ctgccactgc cacattttcc
300
tctgcgccca gcctctgcct ccacctgaaa ctttcctgga aatctcaaaa tgtaattcca
360
ggtccc
366

<210> 3898
<211> 111
<212> PRT
<213> Homo sapiens

<400> 3898
Met Glu Glu Ala Leu His Ser His Leu Gln Leu Ser Gln His Arg Val
1   5   10   15
Met Ala Gly Arg Pro Gly Leu Leu His Trp Leu Leu Ala Ser Ser Gly
            20   25   30
His Pro Arg Phe Val His Glu Trp Lys Ala Met Leu Thr Ala Ala Gln
            35   40   45
Cys Val Gln Asp Val Ser Glu Thr Pro Val Pro Leu Pro Val Pro Leu
        50   55   60
Ser Val Pro Leu Ser Thr Ser Val Thr Ser Ser Leu Arg Gly Ser His
65   70   75   80
Pro Thr Leu Cys His Cys His Ile Phe Leu Cys Ala Gln Pro Leu Pro
                85   90   95
Pro Pro Glu Thr Phe Leu Glu Ile Ser Lys Cys Asn Ser Arg Ser
            100   105   110

<210> 3899
<211> 1092
<212> DNA
<213> Homo sapiens

<400> 3899
ngaaacggta accagccctg ggaagcccgc aagaggcctc agcggtggcc gtccgagcgc
60
cgagaggtga gggtgccccc gcctcacctg cagaggggcc gttccgggct cgaacccggc
120

accttccgga aaatggcggc tgccaggccc agcctgggcc gagtcctccc aggatcctct
180
gtcctgttcc tgtgtgacat gcaggagaag ttccgccaca acatcgccta cttcccacag
240
atcgtctcag tggctgcccg catgctcaag gtggcccggc tgcttgaggt gccagtcatg
300
ctgacggagc agtacccaca aggcctgggc cccacggtgc ccgagctggg gactngaggg
360
ccttcggccg ctggccaaga cctgcttcag catggtgcct gcctgcagca ggagctggac
420
agtcggcccc agctgcgctc tgtgctgctc tgtggcattg aggcacaggc ctgcatcttg
480
aacacgaccc tggacctcct agaccggggg ctgcaggtcc atgtggtggt ggacgcctgc
540
tcctcacgca gccaggtgga ccggctggtg gctctggccc gcatgagaca gagtggtgcc
600
ttcctctcca ccagcgaagg gctcattctg cagcttgtgg gcgatgccgt ccacccccag
660
ttcaaggaga tccagaaact catcaaggag cccgccccag acagcggact gctgggcctc
720
ttccaaggcc agaactccct cctccactga actccaaccc tgccttgagg gaagaccacc
780
ctcctgtcac ccggacctca gtggaagccc gttccccccca tccctggatc ccaagagtgg
840
tgcgatccac caggagtgcc gcccccttgt ggggggggggc agggtgctgc cttcccattg
900
gacagctgct cccggaaatg caaatgagac tcctggaaac tgggtgggaa ttggctgagc
960
caagatggag gcggggctcg gccccgggcc acttcacggg gcgggaaggg gaggggaaga
1020
agagtctcag actgtgggac acggactcgc agaataaaca tatatgtggc tgtgaaaaaa
1080
aaaaaaaaaa aa
1092

<210> 3900
<211> 249
<212> PRT
<213> Homo sapiens

<400> 3900
Xaa Asn Gly Asn Gln Pro Trp Glu Ala Arg Lys Arg Pro Gln Arg Trp
 1   5   10   15
Pro Ser Glu Arg Arg Glu Val Arg Val Pro Pro Pro His Leu Gln Arg
            20   25   30
Gly Arg Ser Gly Leu Glu Pro Gly Thr Phe Arg Lys Met Ala Ala Ala
        35   40   45
Arg Pro Ser Leu Gly Arg Val Leu Pro Gly Ser Ser Val Leu Phe Leu
    50   55   60
Cys Asp Met Gln Glu Lys Phe Arg His Asn Ile Ala Tyr Phe Pro Gln
65   70   75   80
Ile Val Ser Val Ala Ala Arg Met Leu Lys Val Ala Arg Leu Leu Glu
                85   90   95
Val Pro Val Met Leu Thr Glu Gln Tyr Pro Gln Gly Leu Gly Pro Thr

```
              100                    105                    110
Val Pro Glu Leu Gly Thr Xaa Gly Pro Ser Ala Ala Gly Gln Asp Leu
         115                    120                    125
Leu Gln His Gly Ala Cys Leu Gln Gln Glu Leu Asp Ser Arg Pro Gln
         130                    135                    140
Leu Arg Ser Val Leu Leu Cys Gly Ile Glu Ala Gln Ala Cys Ile Leu
145                    150                    155                    160
Asn Thr Thr Leu Asp Leu Leu Asp Arg Gly Leu Gln Val His Val Val
                   165                    170                    175
Val Asp Ala Cys Ser Ser Arg Ser Gln Val Asp Arg Leu Val Ala Leu
                   180                    185                    190
Ala Arg Met Arg Gln Ser Gly Ala Phe Leu Ser Thr Ser Glu Gly Leu
         195                    200                    205
Ile Leu Gln Leu Val Gly Asp Ala Val His Pro Gln Phe Lys Glu Ile
         210                    215                    220
Gln Lys Leu Ile Lys Glu Pro Ala Pro Asp Ser Gly Leu Leu Gly Leu
225                    230                    235                    240
Phe Gln Gly Gln Asn Ser Leu Leu His
                   245
```

<210> 3901
<211> 1287
<212> DNA
<213> Homo sapiens

<400> 3901

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nncctagggg aggtgggcgg ggagctgggg acagatggcc ttggtttggg agcatagcct
60
ctgatcagca tctctgtgtt tggacagaac ctgctgggac tacagaacat ccccaggccg
120
ttcttcctgc aggtgtacca caccttcctc aggattgcag agaccagggt aggtgacgcc
180
gtcctggggc tggtctgcat gctgctgctg ctggtgctga agctgatgcg ggaccacgtg
240
cctcccgtcc accccgagat gccccctggt gtgcggctca gccgtgggct ggtctgggct
300
gccacgacag ctcgcaacgc cctggtggtc tccttcgcag ccctggttgc gtactccttc
360
gaggtgactg ataccagcc tttcatccta acaggggaga cagctgaggg gctccctcca
420
gtccggatcc cgcccttctc agtgaccaca gccaacggga cgatctcctt caccgagatg
480
gtgcaggaca tgggagccgg gctggccgtg gtgcccctga tgggcctcct ggagagcatt
540
gcggtggcca aagccttcgc atctcagaat aattaccgca tcgatgccaa ccaggagctg
600
ctggccatcg gtctcaccaa catgttgggc tccctcgtct cctcctaccc ggtcacaggc
660
agctttggac ggacagccgt gaacgctcag tcgggggtgt gcaccccggc ggggggcctg
720
gtgacgggag tgctggtgct gctgtctctg actacctga cctcactgtt ctactacatc
780
cccaagtctg ccctggctgc cgtcatcatc atggccgtgg ccccgctgtt cgacaccaag
840
```

3046

atcttcagga cgctctggcg tgttaagagg ctggacctgc tgcccctgtg cgtgaccttc
900
ctgctgtgct tctgggaggt gcagtacggc atcctggccg gggccctggt gtctctgctc
960
atgctcctgc actctgcagc caggcctgag accaaggtgt cagagggggcc ggttctggtc
1020
ctgcagccgg ccagcggcct gtccttccct gtcctctgcc ccccactccc tgctgttcag
1080
gaccccaaga ccctgtcccc gacgctctcc agtccacaag gatgcaggca tctctgagtg
1140
ggctggaccg tcctctgtgg gcctcagcca gtggtgctgc agcaagggtg gtggctcccc
1200
acatatcact ccttccctgc ccctaaagtc cggttcctgt ttctggggggg ttgattttag
1260
gggagctaag ggcctgtgag tcctagt
1287

<210> 3902
<211> 312
<212> PRT
<213> Homo sapiens

<400> 3902
Met Leu Leu Leu Leu Val Leu Lys Leu Met Arg Asp His Val Pro Pro
1   5   10   15
Val His Pro Glu Met Pro Pro Gly Val Arg Leu Ser Arg Gly Leu Val
                20   25   30
Trp Ala Ala Thr Thr Ala Arg Asn Ala Leu Val Val Ser Phe Ala Ala
            35   40   45
Leu Val Ala Tyr Ser Phe Glu Val Thr Gly Tyr Gln Pro Phe Ile Leu
        50   55   60
Thr Gly Glu Thr Ala Glu Gly Leu Pro Pro Val Arg Ile Pro Pro Phe
65   70   75   80
Ser Val Thr Thr Ala Asn Gly Thr Ile Ser Phe Thr Glu Met Val Gln
                85   90   95
Asp Met Gly Ala Gly Leu Ala Val Val Pro Leu Met Gly Leu Leu Glu
            100   105   110
Ser Ile Ala Val Ala Lys Ala Phe Ala Ser Gln Asn Asn Tyr Arg Ile
        115   120   125
Asp Ala Asn Gln Glu Leu Leu Ala Ile Gly Leu Thr Asn Met Leu Gly
    130   135   140
Ser Leu Val Ser Ser Tyr Pro Val Thr Gly Ser Phe Gly Arg Thr Ala
145   150   155   160
Val Asn Ala Gln Ser Gly Val Cys Thr Pro Ala Gly Gly Leu Val Thr
                165   170   175
Gly Val Leu Val Leu Leu Ser Leu Asp Tyr Leu Thr Ser Leu Phe Tyr
            180   185   190
Tyr Ile Pro Lys Ser Ala Leu Ala Ala Val Ile Ile Met Ala Val Ala
        195   200   205
Pro Leu Phe Asp Thr Lys Ile Phe Arg Thr Leu Trp Arg Val Lys Arg
    210   215   220
Leu Asp Leu Leu Pro Leu Cys Val Thr Phe Leu Leu Cys Phe Trp Glu
225   230   235   240
Val Gln Tyr Gly Ile Leu Ala Gly Ala Leu Val Ser Leu Leu Met Leu

```
                    245                    250                    255
    Leu His Ser Ala Ala Arg Pro Glu Thr Lys Val Ser Glu Gly Pro Val
                    260                    265                    270
    Leu Val Leu Gln Pro Ala Ser Gly Leu Ser Phe Pro Val Leu Cys Pro
                    275                    280                    285
    Pro Leu Pro Ala Val Gln Asp Pro Lys Thr Leu Ser Pro Thr Leu Ser
            290                    295                    300
    Ser Pro Gln Gly Cys Arg His Leu
    305                    310
```

<210> 3903
<211> 598
<212> DNA
<213> Homo sapiens

<400> 3903

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gcgcgccggg gagcgcgcgt ggtgctggcc tgccgcagcc aggagcgcgg ggaggcggct
60
gccttcgacc tccgccagga gagtgggaac aatgaggtca tcttcatggc cttggacttg
120
gccagtctgg cctcggtgcg ggcctttgcc actgcctttc tgagctctga gccacggttg
180
gacatcctca tccacaatgc cggtatcagt tcctgtggcc ggacccgtga ggcgtttaac
240
ctgctgcttc gggtgaacca tatcggtccc tttctgctga cacatctgct gctgccttgc
300
ctgaaggcat gtgcccctag ccgcgtggtg gtggtagcct cagctgccca ctgtcgggga
360
cgtcttgact tcaaacgcct ggaccgccca gtggtgctgg cggcaggagc tgcggcatat
420
gctgacacta agctggctaa tgtactgttt gcccgggagc tcgccaacca gcttgaggcc
480
actggcgtca cctgctatgc agcccaccca gggcctgtga actcggagct gttcctgcgc
540
catgttcctg gatggctgcg cccacttttg cgcccattgg cttggctggt gccccggg
598
```


<210> 3904
<211> 199
<212> PRT
<213> Homo sapiens

<400> 3904

```
Ala Arg Arg Gly Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg
1               5               10              15
Gly Glu Ala Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu
            20              25              30
Val Ile Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala
        35              40              45
Phe Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile
        50              55              60
His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe Asn
65              70              75              80
Leu Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr His Leu
```

```
                           85                    90                    95
        Leu Leu Pro Cys Leu Lys Ala Cys Ala Pro Ser Arg Val Val Val Val
                       100                    105                   110
        Ala Ser Ala Ala His Cys Arg Gly Arg Leu Asp Phe Lys Arg Leu Asp
                   115                    120                   125
        Arg Pro Val Val Leu Ala Ala Gly Ala Ala Ala Tyr Ala Asp Thr Lys
               130                    135                   140
        Leu Ala Asn Val Leu Phe Ala Arg Glu Leu Ala Asn Gln Leu Glu Ala
        145                    150                   155                   160
        Thr Gly Val Thr Cys Tyr Ala Ala His Pro Gly Pro Val Asn Ser Glu
                       165                    170                   175
        Leu Phe Leu Arg His Val Pro Gly Trp Leu Arg Pro Leu Leu Arg Pro
                   180                    185                   190
        Leu Ala Trp Leu Val Pro Arg
                   195
```

```
<210> 3905
<211> 370
<212> DNA
<213> Homo sapiens
```

```
<400> 3905
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60
tcggagatgg cggtgacctt cgacaaggtg tacgtgaaca tcggggggcga cttcgatgtg
120
gccaccggcc agtttcgctg ccgcgtgccc ggcgcctact tcttctcctt cacggctggc
180
aaggccccgc acaagagccc gtcggtgatg ctggtgcgaa accgcgacga ggtgcaggcg
240
ctggccttcg acgagcagcg gcggccaggc gcgcggcgcg cagccagcca gagcgccatg
300
ctgcagctcg actacggcga cacagtgtgg ctgcggctgc atggcgcccc gcagtacgcg
360
ctaggcgcgc
370
```

```
<210> 3906
<211> 123
<212> PRT
<213> Homo sapiens
```

```
<400> 3906
        Gly Ser Ser Glu Leu Arg Ser Ala Phe Ser Ala Ala Arg Thr Thr Pro
        1                   5                    10                   15
        Leu Glu Gly Thr Ser Glu Met Ala Val Thr Phe Asp Lys Val Tyr Val
                       20                    25                   30
        Asn Ile Gly Gly Asp Phe Asp Val Ala Thr Gly Gln Phe Arg Cys Arg
                   35                    40                   45
        Val Pro Gly Ala Tyr Phe Phe Ser Phe Thr Ala Gly Lys Ala Pro His
               50                    55                   60
        Lys Ser Pro Ser Val Met Leu Val Arg Asn Arg Asp Glu Val Gln Ala
        65                    70                   75                   80
        Leu Ala Phe Asp Glu Gln Arg Arg Pro Gly Ala Arg Arg Ala Ala Ser
```

```
                    85                90                95
      Gln Ser Ala Met Leu Gln Leu Asp Tyr Gly Asp Thr Val Trp Leu Arg
                   100               105               110
      Leu His Gly Ala Pro Gln Tyr Ala Leu Gly Ala
                   115               120
```

```
<210> 3907
<211> 4474
<212> DNA
<213> Homo sapiens

<400> 3907
gcgcgccgga accggaaccg acctgcgccg gaaccggaac ggagagcggg ttgccagggc
60
ccgaagaggg ctggctgcgg cggtctcgct cggctgtccg ttccttgctg gagaatttgg
120
ccacaaagag ctgccaagat agctgggcca ggaagaaagc gccgcagccc tgacccagac
180
gctgttgccg accccggggc actctggctg tcgaccaagc ggctcaagat gtctggcggg
240
gccagtgcca caggcccaag gagagggccc ccaggactgg aggacaccac tagtaagaag
300
aagcagaagg atcgagcaaa ccaggagagc aaggatggag atcctaggaa agagacaggg
360
tctcgatatg ttgcccaggc tggtcttgaa cctctggcct caggtgatcc ttctgcctca
420
gcctcccatg cagctgggat cacaggctca cgccaccgta cccggctgtt ctttccttca
480
tcgtcagggt cagcatccac tcctcaagag gagcagacca agagggagc ttgtgaagac
540
cctcatgatc tcttggctac tcccactcca gagttgttgc tcgattggag gcagagtgca
600
gaagaggtga ttgtcaagct tcgtgtggga gtaggtcccc tgcagctgga ggatgtagat
660
gctgctttca cagatacaga ctgtgtggtg cggtttgcag gtggtcagca gtggggtggt
720
gtcttctatg ctgagataaa aagctcttgt gctaaagtgc aaacccgcaa gggcagtctc
780
ctgcacctga cactgcccaa aaaggtgcct atgctcacgt ggccctccct cctggttgag
840
gctgatgaac agctttgcat accaccgctg aactcccaaa cctgcctcct gggctcagag
900
gagaatttag cccctttggc aggagagaaa gcagtgcctc ccgggaatga cccagtctct
960
ccagccatgg tccggagcag aaaccctggg aaagatgact gtgccaagga ggagatggca
1020
gtggcagcag atgctgcaac cttggtggat ggtaaagagc ccgagtcgat ggtgaacctg
1080
gcgtttgtca gaatgactc gtatgagaag ggcccggatt cagtggtggt cacgtgtac
1140
gtgaaggaga tctgcaggga cacctcaaga gtacttttcc gtgagcagga cttcacgctc
1200
atcttccaga ccagggatgg aaacttcctg aggctgcacc cgggctgtgg gccccacacc
1260
```

accttccgtt ggcaggtgaa gctcaggaat ctgattgagc cagagcagtg caccttctgt
1320

ttcacggctt ctcgcatcga catctgcctt cgtaagaggc agagtcagcg ctggggggggc
1380

ctggaggccc cggctgcacg agtgggtggt gcaaaggttg ccgtgccgac aggtccaacc
1440

cctctggatt caaccccacc aggaggtgct ccccacccccc tgacaggcca ggaggaggcc
1500

cgggctgtgg agaaggataa atccaaggca cgatctgagg acacagggct agacagtgtg
1560

gcaacccgca cacccatgga gcatgtaacc ccaaagccag agacacacct ggcctcgccc
1620

aagcctacat gcatggtgcc tcccatgccc cacagcccag ttagtggaga cagcgtggag
1680

gaggaggaag aggaagagaa gaaggtgtgt ctgccaggct tcactggcct tgtcaattta
1740

ggcaacacct gcttcatgaa cagcgtcatt cagtctctgt ccaacactcg ggaactccgg
1800

gacttcttcc atgaccgctc ctttgaggct gagatcaact acaacaaccc actagggact
1860

ggtgggcgtc tggccattgg ctttgccgtg ctgcttcggg cgctgtggaa gggcacccac
1920

catgccttcc agccttccaa gttgaaggcc attgtggcga gtaaggccag ccagttcaca
1980

ggctatgcac agcatgatgc ccaggagttc atggctttcc tgctggatgg gctgcacgag
2040

gacctgaatc gcattcagaa caagccctac acagagaccg tggattcaga tgggcggccc
2100

gatgaggtgg tagctgagga agcatggcag cggcacaaga tgaggaatga ctctttcatc
2160

gtggacctat ttcaggggca gtacaagtcg aagctggtgt gccctgtgtg tgccaaggtc
2220

tccatcactt ttgacccgtt tctttatctg ccggtgccct tgccacaaaa gcaaaaggtt
2280

ctccctgtct tttattttgc ccgagagccc cacagcaagc ccatcaagtt cctggtgagc
2340

gtcagcaagg agaactccac tgcgagcgaa gtattggact ccctctctca gagtgttcat
2400

gtgaagcctg agaacctgcg tttggcggag gtaattaaga atcgttttca tcgtgtgttc
2460

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2580

gtgcccagcg tccccatctc caagtgtgca gcctgccagc ggaagcaaca gtcggaggat
2640

gaaaagctga gcgctgtac ccggtgctac cgtgtgggct actgcaacca gctctgccag
2700

aaaacccact ggcctgacca caagggcctc tgccgacctg agaacattgg ctacccctttc
2760

ctggtcagtg tacctgcctc acgcctcact tatgcccgcc tcgctcagtt gctagagggc
2820

tatgcccggt actctgtgag tgtattccag ccacccttttc aaccaggccg catggccttg
2880

```
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3000
gacacagggc ttccccgggt gtgggcagcc cctgaccggg gtcctgtgcc cagcaccagt
3060
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4380
catcctgctg ctctgaccct tggcctcagg cttggccctg cccaagctac ttcctgtact
4440
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4474
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<210> 3908
<211> 1373
<212> PRT
<213> Homo sapiens

<400> 3908

```
Ala Gly Cys Gly Gly Leu Ala Arg Leu Ser Val Pro Cys Trp Arg Ile
1               5                   10                  15
Trp Pro Gln Arg Ala Ala Lys Ile Ala Gly Pro Gly Arg Lys Arg Arg
            20                  25                  30
Ser Pro Asp Pro Asp Ala Val Ala Asp Pro Gly Ala Leu Trp Leu Ser
            35                  40                  45
Thr Lys Arg Leu Lys Met Ser Gly Gly Ala Ser Ala Thr Gly Pro Arg
        50                  55                  60
Arg Gly Pro Pro Gly Leu Glu Asp Thr Thr Ser Lys Lys Lys Gln Lys
65                  70                  75                  80
Asp Arg Ala Asn Gln Glu Ser Lys Asp Gly Asp Pro Arg Lys Glu Thr
                85                  90                  95
Gly Ser Arg Tyr Val Ala Gln Ala Gly Leu Glu Pro Leu Ala Ser Gly
                100                 105                 110
Asp Pro Ser Ala Ser Ala Ser His Ala Ala Gly Ile Thr Gly Ser Arg
            115                 120                 125
His Arg Thr Arg Leu Phe Phe Pro Ser Ser Ser Gly Ser Ala Ser Thr
        130                 135                 140
Pro Gln Glu Glu Gln Thr Lys Glu Gly Ala Cys Glu Asp Pro His Asp
145                 150                 155                 160
Leu Leu Ala Thr Pro Thr Pro Glu Leu Leu Leu Asp Trp Arg Gln Ser
                165                 170                 175
Ala Glu Glu Val Ile Val Lys Leu Arg Val Gly Val Gly Pro Leu Gln
                180                 185                 190
Leu Glu Asp Val Asp Ala Ala Phe Thr Asp Thr Asp Cys Val Val Arg
            195                 200                 205
Phe Ala Gly Gly Gln Gln Trp Gly Gly Val Phe Tyr Ala Glu Ile Lys
        210                 215                 220
Ser Ser Cys Ala Lys Val Gln Thr Arg Lys Gly Ser Leu Leu His Leu
225                 230                 235                 240
Thr Leu Pro Lys Lys Val Pro Met Leu Thr Trp Pro Ser Leu Leu Val
                245                 250                 255
Glu Ala Asp Glu Gln Leu Cys Ile Pro Pro Leu Asn Ser Gln Thr Cys
            260                 265                 270
Leu Leu Gly Ser Glu Glu Asn Leu Ala Pro Leu Ala Gly Glu Lys Ala
            275                 280                 285
Val Pro Pro Gly Asn Asp Pro Val Ser Pro Ala Met Val Arg Ser Arg
            290                 295                 300
Asn Pro Gly Lys Asp Asp Cys Ala Lys Glu Glu Met Ala Val Ala Ala
305                 310                 315                 320
Asp Ala Ala Thr Leu Val Asp Gly Lys Glu Pro Glu Ser Met Val Asn
            325                 330                 335
Leu Ala Phe Val Lys Asn Asp Ser Tyr Glu Lys Gly Pro Asp Ser Val
            340                 345                 350
Val Val His Val Tyr Val Lys Glu Ile Cys Arg Asp Thr Ser Arg Val
            355                 360                 365
Leu Phe Arg Glu Gln Asp Phe Thr Leu Ile Phe Gln Thr Arg Asp Gly
```

```
           370                    375                    380
Asn Phe Leu Arg Leu His Pro Gly Cys Gly Pro His Thr Thr Phe Arg
385                    390                    395                    400
Trp Gln Val Lys Leu Arg Asn Leu Ile Glu Pro Glu Gln Cys Thr Phe
                   405                    410                    415
Cys Phe Thr Ala Ser Arg Ile Asp Ile Cys Leu Arg Lys Arg Gln Ser
               420                    425                    430
Gln Arg Trp Gly Gly Leu Glu Ala Pro Ala Ala Arg Val Gly Gly Ala
           435                    440                    445
Lys Val Ala Val Pro Thr Gly Pro Thr Pro Leu Asp Ser Thr Pro Pro
       450                    455                    460
Gly Gly Ala Pro His Pro Leu Thr Gly Gln Glu Glu Ala Arg Ala Val
465                    470                    475                    480
Glu Lys Asp Lys Ser Lys Ala Arg Ser Glu Asp Thr Gly Leu Asp Ser
               485                    490                    495
Val Ala Thr Arg Thr Pro Met Glu His Val Thr Pro Lys Pro Glu Thr
           500                    505                    510
His Leu Ala Ser Pro Lys Pro Thr Cys Met Val Pro Pro Met Pro His
       515                    520                    525
Ser Pro Val Ser Gly Asp Ser Val Glu Glu Glu Glu Glu Glu Glu Lys
   530                    535                    540
Lys Val Cys Leu Pro Gly Phe Thr Gly Leu Val Asn Leu Gly Asn Thr
545                    550                    555                    560
Cys Phe Met Asn Ser Val Ile Gln Ser Leu Ser Asn Thr Arg Glu Leu
               565                    570                    575
Arg Asp Phe Phe His Asp Arg Ser Phe Glu Ala Glu Ile Asn Tyr Asn
           580                    585                    590
Asn Pro Leu Gly Thr Gly Gly Arg Leu Ala Ile Gly Phe Ala Val Leu
       595                    600                    605
Leu Arg Ala Leu Trp Lys Gly Thr His His Ala Phe Gln Pro Ser Lys
   610                    615                    620
Leu Lys Ala Ile Val Ala Ser Lys Ala Ser Gln Phe Thr Gly Tyr Ala
625                    630                    635                    640
Gln His Asp Ala Gln Glu Phe Met Ala Phe Leu Leu Asp Gly Leu His
               645                    650                    655
Glu Asp Leu Asn Arg Ile Gln Asn Lys Pro Tyr Thr Glu Thr Val Asp
           660                    665                    670
Ser Asp Gly Arg Pro Asp Glu Val Val Ala Glu Glu Ala Trp Gln Arg
       675                    680                    685
His Lys Met Arg Asn Asp Ser Phe Ile Val Asp Leu Phe Gln Gly Gln
   690                    695                    700
Tyr Lys Ser Lys Leu Val Cys Pro Val Cys Ala Lys Val Ser Ile Thr
705                    710                    715                    720
Phe Asp Pro Phe Leu Tyr Leu Pro Val Pro Leu Pro Gln Lys Gln Lys
               725                    730                    735
Val Leu Pro Val Phe Tyr Phe Ala Arg Glu Pro His Ser Lys Pro Ile
           740                    745                    750
Lys Phe Leu Val Ser Val Ser Lys Glu Asn Ser Thr Ala Ser Glu Val
       755                    760                    765
Leu Asp Ser Leu Ser Gln Ser Val His Val Lys Pro Glu Asn Leu Arg
   770                    775                    780
Leu Ala Glu Val Ile Lys Asn Arg Phe His Arg Val Phe Leu Pro Ser
785                    790                    795                    800
His Ser Leu Asp Thr Val Ser Pro Ser Asp Thr Leu Leu Cys Phe Glu
```

```
                    805                 810                 815
Leu Leu Ser Ser Glu Leu Ala Lys Glu Arg Val Val Val Leu Glu Val
            820                 825                 830
Gln Gln Arg Pro Gln Val Pro Ser Val Pro Ile Ser Lys Cys Ala Ala
            835                 840                 845
Cys Gln Arg Lys Gln Gln Ser Glu Asp Glu Lys Leu Lys Arg Cys Thr
        850                 855                 860
Arg Cys Tyr Arg Val Gly Tyr Cys Asn Gln Leu Cys Gln Lys Thr His
865                 870                 875                 880
Trp Pro Asp His Lys Gly Leu Cys Arg Pro Glu Asn Ile Gly Tyr Pro
                885                 890                 895
Phe Leu Val Ser Val Pro Ala Ser Arg Leu Thr Tyr Ala Arg Leu Ala
            900                 905                 910
Gln Leu Leu Glu Gly Tyr Ala Arg Tyr Ser Val Ser Val Phe Gln Pro
        915                 920                 925
Pro Phe Gln Pro Gly Arg Met Ala Leu Glu Ser Gln Ser Pro Gly Cys
        930                 935                 940
Thr Thr Leu Leu Ser Thr Gly Ser Leu Glu Ala Gly Asp Ser Glu Arg
945                 950                 955                 960
Asp Pro Ile Gln Pro Pro Glu Leu Gln Leu Val Thr Pro Met Ala Glu
                965                 970                 975
Gly Asp Thr Gly Leu Pro Arg Val Trp Ala Ala Pro Asp Arg Gly Pro
            980                 985                 990
Val Pro Ser Thr Ser Gly Ile Ser Ser Glu Met Leu Ala Ser Gly Pro
        995                 1000                1005
Ile Glu Val Gly Ser Leu Pro Ala Gly Glu Arg Val Ser Arg Pro Glu
    1010                1015                1020
Ala Ala Val Pro Gly Tyr Gln His Pro Ser Glu Ala Met Asn Ala His
1025                1030                1035                1040
Thr Pro Gln Phe Phe Ile Tyr Lys Ile Asp Ser Ser Asn Arg Glu Gln
                1045                1050                1055
Arg Leu Glu Asp Lys Gly Asp Thr Pro Leu Glu Leu Gly Asp Asp Cys
            1060                1065                1070
Ser Leu Ala Leu Val Trp Arg Asn Asn Glu Arg Leu Gln Glu Phe Val
            1075                1080                1085
Leu Val Ala Ser Lys Glu Leu Glu Cys Ala Glu Asp Pro Gly Ser Ala
        1090                1095                1100
Gly Glu Ala Ala Arg Ala Gly His Phe Thr Leu Asp Gln Cys Leu Asn
1105                1110                1115                1120
Leu Phe Thr Arg Pro Glu Val Leu Ala Pro Glu Glu Ala Trp Tyr Cys
                1125                1130                1135
Pro Gln Cys Lys Gln His Arg Glu Ala Ser Lys Gln Leu Leu Leu Trp
            1140                1145                1150
Arg Leu Pro Asn Val Leu Ile Val Gln Leu Lys Arg Phe Ser Phe Arg
            1155                1160                1165
Ser Phe Ile Trp Arg Asp Lys Ile Asn Asp Leu Val Glu Phe Pro Val
        1170                1175                1180
Arg Asn Leu Asp Leu Ser Lys Phe Cys Ile Gly Gln Lys Glu Glu Gln
1185                1190                1195                1200
Leu Pro Ser Tyr Asp Leu Tyr Ala Val Ile Asn His Tyr Gly Gly Met
                1205                1210                1215
Ile Gly Gly His Tyr Thr Ala Cys Ala Arg Leu Pro Asn Asp Arg Ser
            1220                1225                1230
Ser Gln Arg Ser Asp Val Gly Trp Arg Leu Phe Asp Asp Ser Thr Val
```

                                    3055

```
           1235              1240              1245
Thr Thr Val Asp Glu Ser Gln Val Val Thr Arg Tyr Ala Tyr Val Leu
       1250              1255              1260
Phe Tyr Arg Arg Arg Asn Ser Pro Val Glu Arg Pro Pro Arg Ala Gly
1265              1270              1275              1280
His Ser Glu His His Pro Asp Leu Gly Pro Ala Ala Glu Ala Ala Ala
                  1285              1290              1295
Ser Gln Ala Ser Arg Ile Trp Gln Glu Leu Glu Ala Glu Glu Glu Pro
           1300              1305              1310
Val Pro Glu Gly Ser Gly Pro Leu Gly Pro Trp Gly Pro Gln Asp Trp
       1315              1320              1325
Val Gly Pro Leu Pro Arg Gly Pro Thr Thr Pro Asp Glu Gly Cys Leu
   1330              1335              1340
Arg Tyr Phe Val Leu Gly Thr Val Ala Ala Leu Val Ala Leu Val Leu
1345              1350              1355              1360
Asn Val Phe Tyr Pro Leu Val Ser Gln Ser Arg Trp Arg
                  1365              1370
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<210> 3909
<211> 2704
<212> DNA
<213> Homo sapiens

<400> 3909
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120
caattaatta taaccacatc acatgaagat tagatgtaat taggacctgt ccaatgtctt
180
tacatcccag tccttctgta ctcctaacct taagcaaatt ggtcgacctc tgtaggtcta
240
agtattctgt gtgtaacatg aaagctttga attaggccac gtttccggct aattttttaa
300
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360
ttttaaatcc actttccatc tctccagagg aaagggcatt gagagtagag gaagcaagtc
420
cctttcacta aagcagcctg gtttgaaaaa gccggtaatc tctgaactgt ctcttgcttg
480
aacaagaaaa actccctctg aaataccttt ttctccttgt gatagcaaca gaaaccaagc
540
agcaacagcc cttggaaaga ggctaaattt ttcttgactt ctgcagcaac aaagaccgtg
600
aaaagttggc acttctggcc taacgctgcc gtcatcctac ccctcacccc agggcaaccc
660
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720
ctgtttattt tcaaatctca cgaacctcac cccaagatct tcacattctg gatctcagct
780
gctcttgaag gacagtgact tgttaccacc gcaacagcag agcctgccat ccccaacaga
840
tcaccagttg tccctgacat cgtgccctac cttgtctccc tttgtggtct cctaaatgcc
900
```

                                    3056

```
catctcgttg gccttggttc ggctagtggt atggaggggt gctgcctagc actgacctga
960
gagtgtgtgt gacccactga cccaatggac atcaaaggcc agttctggaa tgatgacgac
1020
tcggagggag ataatgaatc agaggaattt ctctatggcg ttcaggggag ctgtgcagct
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Pro Pro Ala Lys Glu Ala Arg Phe Arg Thr Ala Lys Lys Leu Tyr Gly
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Ser Thr Phe Ala Phe His Gly Ser His Ile Glu Asn Trp His Ser Ile
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        275            280                285
Leu Val Asn Asp Val Asn Asp Asn Ala Pro Gln Phe Leu Arg Asp Ser
        290            295                300
Tyr Gln Gly Ser Val Tyr Glu Asp Val Pro Pro Phe Thr Ser Val Leu
305                310                315                    320
Gln Ile Ser Ala Thr Asp Arg Asp Ser Gly Leu Asn Gly Arg Val Phe
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Tyr Thr Phe Gln Gly Gly Asp Asp Gly Asp Gly Asp Phe Ile Val Glu
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Ser Thr Ser Gly Ile Val Arg Thr Leu Arg Arg Leu Asp Arg Glu Asn
        355            360                365
Val Ala Gln Tyr Val Leu Arg Ala Tyr Ala Val Asp Lys Gly Met Pro
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Pro Ala Arg Thr Pro Met Glu Val Thr Val Thr Val Leu Asp Val Asn
385            390                395                    400
Asp Asn Pro Pro Val Phe Glu Gln Asp Glu Phe Asp Val Phe Val Glu
                405            410                    415
Glu Asn Ser Pro Ile Gly Leu Ala Val Ala Arg Val Thr Ala Thr Asp
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Pro Asp Glu Gly Thr Asn Ala Gln Ile Met Tyr Gln Ile Val Glu Gly
        435            440                445
Asn Ile Pro Glu Val Phe Gln Leu Asp Ile Phe Ser Gly Glu Leu Thr
        450            455                460
Ala Leu Val Asp Leu Asp Tyr Glu Asp Arg Pro Glu Tyr Val Leu Val
465                470                475                    480
Ile Gln Ala Thr Ser Ala Pro Leu Val Ser Arg Ala Thr Val His Val
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Arg Leu Leu Asp Arg Asn Asp Asn Pro Pro Val Leu Gly Asn Phe Glu
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Ile Leu Phe Asn Asn Tyr Val Thr Asn Arg Ser Ser Ser Phe Pro Gly
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Gly Ala Ile Gly Arg Val Pro Ala His Asp Pro Asp Ile Ser Asp Ser
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Leu Thr Tyr Ser Phe Glu Arg Gly Asn Glu Leu Ser Leu Val Leu Leu
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Asn Ala Ser Thr Gly Glu Leu Lys Leu Ser Arg Ala Leu Asp Asn Asn
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Arg Pro Leu Glu Ala Leu Met Ser Val Ser Val Ser Asp Gly Ile His
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Ser Val Thr Ala Phe Cys Thr Leu Arg Val Thr Ile Ile Thr Asp Asp
        595            600                605
Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser Gln Glu
        610            615                620
Lys Phe Leu Ser Pro Leu Leu Ala Leu Phe Val Glu Gly Val Ala Ala
625            630                635                    640
Val Leu Ser Thr Thr Lys Asp Asp Val Phe Val Phe Asn Val Gln Asn
                645            650                    655
Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser Ala Leu
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Leu Pro Gly Gly Val Arg Gly Gln Phe Phe Pro Ser Glu Asp Leu Gln
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Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser Thr Gln
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3066

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Arg Val Leu Pro Phe Asp Asp Asn Ile Cys Leu Arg Glu Pro Cys Glu
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Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser Ala Pro
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Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro Ile Asn
                740                    745                    750
Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr Cys Glu
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Thr Glu Ile Asp Leu Cys Tyr Ser Arg Pro Cys Gly Ala Asn Gly Arg
            770                    775                    780
Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Leu Cys Arg Asp Gly Tyr
785                    790                    795                    800
Thr Gly Glu His Cys Glu Val Ser Ala Arg Ser Gly Arg Cys Thr Pro
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Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Val Gly Gly
                820                    825                    830
Phe Lys Cys Asp Cys Pro Ser Gly Asp Phe Glu Lys Pro Tyr Cys Gln
                835                    840                    845
Val Thr Thr Arg Ser Phe Pro Ala His Ser Phe Ile Thr Phe Arg Gly
            850                    855                    860
Leu Arg Gln Arg Phe His Phe Thr Leu Ala Leu Ser Phe Ala Thr Lys
865                    870                    875                    880
Glu Arg Asp Gly Leu Leu Leu Tyr Asn Gly Arg Phe Asn Glu Lys His
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Asp Phe Val Ala Leu Glu Val Ile Gln Glu Gln Val Gln Leu Thr Phe
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Ser Ala Gly Glu Ser Thr Thr Thr Val Ser Pro Phe Val Pro Gly Gly
            915                    920                    925 .
Val Ser Asp Gly Gln Trp His Thr Val Gln Leu Lys Tyr Tyr Asn Lys
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Pro Leu Leu Gly Gln Thr Gly Leu Pro Gln Gly Pro Ser Glu Gln Lys
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Val Ala Val Val Thr Val Asp Gly Cys Asp Thr Gly Val Ala Leu Arg
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Phe Gly Ser Val Leu Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln
                980                    985                    990
Gly Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly
            995                    1000                   1005
Gly Val Pro Asp Leu Pro Glu Ser Phe Pro Val Arg Met Arg Gln Phe
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Val Gly Cys Met Arg Asn Leu Gln Val Asp Ser Arg His Ile Asp Met
1025                   1030                   1035                   1040
Ala Asp Phe Ile Ala Asn Asn Gly Thr Val Pro Gly Cys Pro Ala Lys
                1045                   1050                   1055
Lys Asn Val Cys Asp Ser Asn Thr Cys His Asn Gly Gly Thr Cys Val
                1060                   1065                   1070
Asn Gln Trp Asp Ala Phe Ser Cys Glu Cys Pro Leu Gly Phe Gly Gly
            1075                   1080                   1085
Lys Ser Cys Ala Gln Glu Met Ala Asn Pro Gln His Phe Leu Gly Ser
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Ser Leu Val Ala Trp His Gly Leu Ser Leu Pro Ile Ser Gln Pro Trp
1105                   1110                   1115                   1120
Tyr Leu Ser Leu Met Phe Arg Thr Arg Gln Ala Asp Gly Val Leu Leu
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Gln Ala Ile Thr Arg Gly Arg Ser Thr Ile Thr Leu Gln Leu Arg Glu
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Gly His Val Met Leu Ser Val Glu Gly Thr Gly Leu Gln Ala Ser Ser
          1155              1160              1165
Leu Arg Leu Glu Pro Gly Arg Ala Asn Asp Gly Asp Trp His His Ala
      1170              1175              1180
Gln Leu Ala Leu Gly Ala Ser Gly Gly Pro Gly His Ala Ile Leu Ser
  1185              1190              1195              1200
Phe Asp Tyr Gly Gln Gln Arg Ala Glu Gly Asn Leu Gly Pro Arg Leu
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His Gly Leu His Leu Ser Asn Ile Thr Val Gly Gly Ile Pro Gly Pro
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Ala Gly Gly Val Ala Arg Gly Phe Arg Gly Cys Leu Gln Gly Val Arg
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Val Ser Asp Thr Pro Glu Gly Val Asn Ser Leu Asp Pro Ser His Gly
      1250              1255              1260
Glu Ser Ile Asn Val Glu Gln Gly Cys Ser Leu Pro Asp Pro Cys Asp
  1265              1270              1275              1280
Ser Asn Pro Cys Pro Ala Asn Ser Tyr Cys Ser Asn Asp Trp Asp Ser
              1285              1290              1295
Tyr Ser Cys Ser Cys Asp Pro Gly Tyr Tyr Gly Asp Asn Cys Thr Asn
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Val Cys Asp Leu Asn Pro Cys Glu His Gln Ser Val Cys Thr Arg Lys
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Pro Ser Ala Pro His Gly Tyr Thr Cys Glu Cys Pro Pro Asn Tyr Leu
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Gly Pro Tyr Cys Glu Thr Arg Ile Asp Gln Pro Cys Pro Arg Gly Trp
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Trp Gly His Pro Thr Cys Gly Pro Cys Asn Cys Asp Val Ser Lys Gly
              1365              1370              1375
Phe Asp Pro Asp Cys Asn Lys Thr Ser Gly Glu Cys His Cys Lys Glu
          1380              1385              1390
Asn His Tyr Arg Pro Pro Gly Ser Pro Thr Cys Leu Leu Cys Asp Cys
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Tyr Pro Thr Gly Ser Leu Ser Arg Val Cys Asp Pro Glu Asp Gly Gln
      1410              1415              1420
Cys Pro Cys Lys Pro Gly Val Ile Gly Arg Gln Cys Asp Arg Cys Asp
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Asn Pro Phe Ala Glu Val Thr Thr Asn Gly Cys Glu Val Asn Tyr Asp
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Ser Cys Pro Arg Ala Ile Glu Ala Gly Ile Trp Trp Pro Arg Thr Arg
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Phe Gly Leu Pro Ala Ala Ala Pro Cys Pro Lys Gly Ser Phe Gly Thr
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Ala Val Arg His Cys Asp Glu His Arg Gly Trp Leu Pro Pro Asn Leu
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Phe Asn Cys Thr Ser Ile Thr Phe Ser Glu Leu Lys Gly Phe Ala Glu
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Arg Leu Gln Arg Asn Glu Ser Gly Leu Asp Ser Gly Arg Ser Gln Gln
              1525              1530              1535
Leu Ala Leu Leu Leu Arg Asn Ala Thr Gln His Thr Ala Gly Tyr Phe
          1540              1545              1550
Gly Ser Asp Val Lys Val Ala Tyr Gln Leu Ala Thr Arg Leu Leu Ala
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3068

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His Glu Ser Thr Gln Arg Gly Phe Gly Leu Ser Ala Thr Gln Asp Val
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His Phe Thr Glu Asn Leu Leu Arg Val Gly Ser Ala Leu Leu Asp Thr
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Ala Asn Lys Arg His Trp Glu Leu Ile Gln Gln Thr Glu Gly Gly Thr
               1605                    1610                    1615
Ala Trp Leu Leu Gln His Tyr Glu Ala Tyr Ala Ser Ala Leu Ala Gln
               1620                    1625                    1630
Asn Met Arg His Thr Tyr Leu Ser Pro Phe Thr Ile Val Thr Pro Asn
          1635                    1640                    1645
Ile Val Ile Ser Val Val Arg Leu Asp Lys Gly Asn Phe Ala Gly Ala
          1650                    1655                    1660
Lys Leu Pro Arg Tyr Glu Ala Leu Arg Gly Glu Gln Pro Pro Asp Leu
1665                    1670                    1675                    1680
Glu Thr Thr Val Ile Leu Pro Glu Ser Val Phe Arg Glu Thr Pro Pro
               1685                    1690                    1695
Val Val Arg Pro Ala Gly Pro Gly Glu Ala Gln Glu Pro Glu Glu Leu
               1700                    1705                    1710
Ala Arg Arg Gln Arg Arg His Pro Glu Leu Ser Gln Gly Glu Ala Val
          1715                    1720                    1725
Ala Ser Val Ile Ile Tyr Arg Thr Leu Ala Gly Leu Leu Pro His Asn
     1730                    1735                    1740
Tyr Asp Pro Asp Lys Arg Ser Leu Arg Val Pro Lys Arg Pro Ile Ile
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Asn Thr Pro Val Val Ser Ile Ser Val His Asp Asp Glu Glu Leu Leu
               1765                    1770                    1775
Pro Arg Ala Leu Asp Lys Pro Val Thr Val Gln Phe Arg Leu Leu Glu
               1780                    1785                    1790
Thr Glu Glu Arg Thr Lys Pro Ile Cys Val Phe Trp Asn His Ser Ile
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Leu Val Ser Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Val Val
     1810                    1815                    1820
Phe Arg Asn Glu Ser His Val Ser Cys Gln Cys Asn His Met Thr Ser
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Phe Ala Val Leu Met Asp Val Ser Arg Arg Glu Asn Gly Glu Ile Leu
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Pro Leu Lys Thr Leu Thr Tyr Val Ala Leu Gly Val Thr Leu Ala Ala
          1860                    1865                    1870
Leu Leu Leu Thr Phe Phe Phe Leu Thr Leu Leu Arg Ile Leu Arg Ser
          1875                    1880                    1885
Asn Gln His Gly Ile Arg Arg Asn Leu Thr Ala Ala Leu Gly Leu Ala
     1890                    1895                    1900
Gln Leu Val Phe Leu Leu Gly Ile Asn Gln Ala Asp Leu Pro Phe Ala
1905                    1910                    1915                    1920
Cys Thr Val Ile Ala Ile Leu Leu His Phe Leu Tyr Leu Cys Thr Phe
               1925                    1930                    1935
Ser Trp Ala Leu Leu Glu Ala Leu His Leu Tyr Arg Ala Leu Thr Glu
               1940                    1945                    1950
Val Arg Asp Val Asn Thr Gly Pro Met Arg Phe Tyr Tyr Met Leu Gly
          1955                    1960                    1965
Trp Gly Val Pro Ala Phe Ile Thr Gly Leu Ala Val Gly Leu Asp Pro
     1970                    1975                    1980
Glu Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Ile Tyr Asp Thr
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Val Phe Leu Tyr Ile Leu Ala Ala Arg Ala Ser Cys Ala Ala Gln Arg
                2020                2025                2030
Gln Gly Phe Glu Lys Lys Gly Pro Val Ser Gly Leu Gln Pro Ser Phe
            2035                2040                2045
Ala Val Leu Leu Leu Leu Ser Ala Thr Trp Leu Leu Ala Leu Leu Ser
            2050                2055                2060
Val Asn Ser Asp Thr Leu Leu Phe His Tyr Leu Phe Ala Thr Cys Asn
        2065                2070                2075                2080
Cys Ile Gln Gly Pro Phe Ile Phe Leu Ser Tyr Val Val Leu Ser Lys
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Glu Val Arg Lys Ala Leu Lys Leu Ala Cys Ser Arg Lys Pro Ser Pro
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Asp Pro Ala Leu Thr Thr Lys Ser Thr Leu Thr Ser Ser Tyr Asn Cys
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Pro Ser Pro Tyr Ala Asp Gly Arg Leu Tyr Gln Pro Tyr Gly Asp Ser
    2130                2135                2140
Ala Gly Ser Leu His Ser Thr Ser Arg Ser Gly Lys Ser Gln Pro Ser
2145                2150                2155                2160
Tyr Ile Pro Phe Leu Leu Arg Glu Glu Ser Ala Leu Asn Pro Gly Gln
                2165                2170                2175
Gly Pro Pro Gly Leu Gly Asp Pro Gly Ser Leu Phe Leu Glu Gly Gln
            2180                2185                2190
Asp Gln Gln His Asp Pro Asp Thr Asp Ser Asp Ser Asp Leu Ser Leu
            2195                2200                2205
Glu Asp Asp Gln Ser Gly Ser Tyr Ala Ser Thr His Ser Ser Asp Ser
    2210                2215                2220
Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala Phe Pro Gly Glu
2225                2230                2235                2240
Gln Gly Trp Asp Ser Leu Leu Gly Pro Gly Ala Glu Arg Leu Pro Leu
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His Ser Thr Pro Lys Asp Gly Gly Pro Gly Pro Gly Lys Ala Pro Trp
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Pro Gly Asp Phe Gly Thr Thr Ala Lys Glu Ser Ser Gly Asn Gly Ala
        2275                2280                2285
Pro Glu Glu Arg Leu Arg Glu Asn Gly Asp Ala Leu Ser Arg Glu Gly
        2290                2295                2300
Ser Leu Gly Pro Leu Pro Gly Ser Ser Ala Gln Pro His Lys Gly Ile
2305                2310                2315                2320
Leu Lys Lys Lys Cys Leu Pro Thr Ile Ser Glu Lys Ser Ser Leu Leu
                2325                2330                2335
Arg Leu Pro Leu Glu Gln Cys Thr Gly Ser Ser Arg Gly Ser Ser Ala
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Ser Glu Gly Ser Arg Gly Gly Pro Pro Pro Arg Pro Pro Pro Arg Gln
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Ser Leu Gln Glu Gln Leu Asn Gly Val Met Pro Ile Ala Met Ser Ile
    2370                2375                2380
Lys Ala Gly Thr Val Asp Glu Asp Ser Ser Gly Ser Glu Phe Leu Phe
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300
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Arg Leu Asn His Leu Ser Phe Ala Glu Leu Leu Lys Pro Phe Ser Arg
        35                  40                  45
Leu Thr Ser Glu Val His Met Arg Asp Pro Asn Asn Gln Leu His Val
    50                  55                  60
Ile Lys Asn Leu Lys Ile Ala Val Ser Asn Ile Val Thr Gln Pro Pro
65                  70                  75                  80
Gln Pro Gly Ala Ile Arg Lys Leu Leu Asn Asp Val Val Ser Gly Ser
                85                  90                  95
Gln Pro Ala Glu Gly Leu Val Ala Asn Val Ile Thr Ala Gly Asp Tyr
                100                 105                 110
Asp Leu Asn Ile Ser Ala Thr Thr Pro Trp Phe Glu Ser Tyr Arg Glu
            115                 120                 125
Thr Phe Leu Gln Ser Met Pro Ala Ser Asp His Glu Phe Leu Asn His
        130                 135                 140
Tyr Leu Ala Cys Met Leu Val Ala Ser Ser Ser Glu Ala Glu Pro Val
145                 150                 155                 160
Glu Gln Phe Ser Lys Leu Ser Gln Glu Gln His Arg Ile Gln His Asn
                165                 170                 175
Ser Asp Tyr Ser Tyr Pro Lys Trp Phe Ile Pro Asn Thr Leu Lys Tyr
            180                 185                 190
Tyr Val Leu Leu His Asp Val Ser Ala Gly Asp Glu Gln Arg Ala Glu
            195                 200                 205
Ser Ile Tyr Glu Glu Met Lys Gln Lys Tyr Gly Thr Gln Gly Cys Tyr
```

3074

```
            210                    215                    220
Leu Leu Lys Ile Asn Ser Arg Thr Ser Asn Arg Ala Ser Asp Glu Gln
225                    230                    235                    240
Ile Pro Asp Pro Trp Ser Gln Tyr Leu Gln Lys Asn Ser Ile Gln Asn
                245                    250                    255
Gln Glu Ser Tyr Glu Asp Gly Pro Cys Thr Ile Thr Ser Asn Lys Asn
                260                    265                    270
Ser Asp Asn Asn Leu Leu Ser Leu Asp Gly Leu Asp Asn Glu Val Lys
        275                    280                    285
Asp Gly Leu Pro Asn Asn Phe Arg Ala His Pro Leu Gln Leu Glu Gln
        290                    295                    300
Ser Ser Asp Pro Ser Asn Ser Ile Asp Gly Pro Asp His Leu Arg Ser
305                    310                    315                    320
Ala Ser Ser Leu His Glu Thr Lys Lys Gly Asn Thr Gly Ile Ile His
                325                    330                    335
Gly Ala Cys Leu Thr Leu Thr Asp His Asp Arg Ile Arg Gln Phe Ile
                340                    345                    350
Gln Lys Phe Thr Phe Arg Gly Leu Leu Pro His Ile Glu Lys Thr Ile
                355                    360                    365
Arg Gln Leu Asn Asp Gln Leu Ile Ser Arg Lys Gly Leu Ser Arg Ser
        370                    375                    380
Leu Phe Ser Ala Thr Lys Lys Trp Phe Ser Gly Ser Lys Val Pro Glu
385                    390                    395                    400
Lys Ser Ile Asn Asp Leu Lys Asn Thr Ser Gly Leu Leu Tyr Pro Pro
                405                    410                    415
Glu Ala Pro Glu Leu Gln Ile Arg Lys Met Ala Asp Leu Cys Phe Leu
                420                    425                    430
Val Gln His Tyr Asp Leu Ala Tyr Ser Cys Tyr His Thr Ala Lys Lys
        435                    440                    445
Asp Phe Leu Asn Asp Gln Ala Met Leu Tyr Ala Ala Gly Ala Leu Glu
        450                    455                    460
Met Ala Ala Val Ser Ala Phe Leu Gln Pro Gly Ala Pro Arg Pro Tyr
465                    470                    475                    480
Pro Ala His Tyr Met Asp Thr Ala Ile Gln Thr Tyr Arg Asp Ile Cys
                485                    490                    495
Lys Asn Met Val Leu Ala Glu Arg Cys Val Leu Leu Ser Ala Glu Leu
                500                    505                    510
Leu Lys Ser Gln Ser Lys Tyr Ser Glu Ala Ala Ala Leu Leu Ile Arg
        515                    520                    525
Leu Thr Ser Glu Asp Ser Asp Leu Arg Ser Ala Leu Leu Leu Glu Gln
        530                    535                    540
Ala Ala His Cys Phe Ile Asn Met Lys Ser Pro Met Val Arg Lys Tyr
545                    550                    555                    560
Ala Phe His Met Ile Leu Ala Gly His Arg Phe Ser Lys Ala Gly Gln
                565                    570                    575
Lys Lys His Ala Leu Arg Cys Tyr Cys Gln Ala Met Gln Val Tyr Lys
        580                    585                    590
Gly Lys Gly Trp Ser Leu Ala Glu Asp His Ile Asn Phe Thr Ile Gly
        595                    600                    605
Arg Gln Ser Tyr Thr Leu Arg Gln Leu Asp Asn Ala Val Ser Ala Phe
        610                    615                    620
Arg His Ile Leu Ile Asn Glu Ser Lys Gln Ser Ala Ala Gln Gln Gly
625                    630                    635                    640
Ala Phe Leu Arg Glu Tyr Leu Tyr Val Tyr Lys Asn Val Ser Gln Leu
```

3075

```
                 645                     650                     655
Ser Pro Asp Gly Pro Leu Pro Gln Leu Pro Leu Pro Tyr Ile Asn Ser
             660                     665                     670
Ser Ala Thr Arg Val Phe Phe Gly His Asp Arg Arg Pro Ala Asp Gly
             675                     680                     685
Glu Lys Gln Ala Ala Thr His Val Ser Leu Asp Gln Glu Tyr Asp Ser
         690                     695                     700
Glu Ser Ser Gln Gln Trp Arg Glu Leu Glu Glu Gln Val Val Ser Val
705                     710                     715                     720
Val Asn Lys Gly Val Ile Pro Ser Asn Phe His Pro Thr Gln Tyr Cys
             725                     730                     735
Leu Asn Ser Tyr Ser Asp Asn Ser Arg Phe Pro Leu Ala Val Val Glu
             740                     745                     750
Glu Pro Ile Thr Val Glu Val Ala Phe Arg Asn Pro Leu Lys Val Leu
         755                     760                     765
Leu Leu Leu Thr Asp Leu Ser Leu Leu Trp Lys Phe His Pro Lys Asp
         770                     775                     780
Phe Ser Gly Lys Asp Asn Glu Glu Val Lys Gln Leu Val Thr Ser Glu
785                     790                     795                     800
Pro Glu Met Ile Gly Ala Glu Val Ile Ser Glu Phe Leu Ile Asn Gly
             805                     810                     815
Glu Glu Ser Lys Val Ala Arg Leu Lys Leu Phe Pro His His Ile Gly
             820                     825                     830
Glu Leu His Ile Leu Gly Val Val Tyr Asn Leu Gly Thr Ile Gln Gly
         835                     840                     845
Ser Met Thr Val Asp Gly Ile Gly Ala Leu Pro Gly Cys His Thr Gly
         850                     855                     860
Lys Tyr Ser Leu Ser Met Ser Val Arg Gly Lys Gln Asp Leu Glu Ile
865                     870                     875                     880
Gln Gly Pro Arg Leu Asn Asn Thr Lys Glu Glu Lys Thr Ser Val Lys
             885                     890                     895
Tyr Gly Pro Asp Arg Arg Leu Asp Pro Ile Ile Thr Glu Glu Met Pro
         900                     905                     910
Leu Leu Glu Val Phe Phe Ile His Phe Pro Thr Gly Leu Leu Cys Gly
         915                     920                     925
Glu Ile Arg Lys Ala Tyr Val Glu Phe Val Asn Val Ser Lys Cys Pro
         930                     935                     940
Leu Thr Gly Leu Lys Val Val Ser Lys Arg Pro Glu Phe Phe Thr Phe
945                     950                     955                     960
Gly Gly Asn Thr Ala Val Leu Thr Pro Leu Ser Pro Ser Ala Ser Glu
             965                     970                     975
Asn Cys Ser Ala Tyr Lys Thr Val Val Thr Asp Ala Thr Ser Val Cys
         980                     985                     990
Thr Ala Leu Ile Ser Ser Ala Ser Ser Val Asp Phe Gly Ile Gly Thr
         995                     1000                    1005
Gly Ser Gln Pro Glu Val Ile Pro Val Pro Leu Pro Asp Thr Val Leu
         1010                    1015                    1020
Leu Pro Gly Ala Ser Val Gln Leu Pro Met Trp Leu Arg Gly Pro Asp
1025                    1030                    1035                    1040
Glu Glu Gly Val His Glu Ile Asn Phe Leu Phe Tyr Tyr Glu Ser Val
             1045                    1050                    1055
Lys Lys Gln Pro Lys Ile Arg His Arg Ile Leu Arg His Thr Ala Ile
         1060                    1065                    1070
Ile Cys Thr Ser Arg Ser Leu Asn Val Arg Ala Thr Val Cys Arg Ser
```

```
                1075                    1080                    1085
Asn Ser Leu Glu Asn Glu Glu Gly Arg Gly Gly Asn Met Leu Val Phe
        1090                    1095                    1100
Val Asp Val Glu Asn Thr Asn Thr Ser Glu Ala Gly Val Lys Glu Phe
1105                    1110                    1115                    1120
His Ile Val Gln Val Ser Ser Ser Ser Lys His Trp Lys Leu Gln Lys
                1125                    1130                    1135
Ser Val Asn Leu Ser Glu Asn Lys Asp Ala Lys Leu Ala Ser Arg Glu
            1140                    1145                    1150
Lys Gly Lys Phe Cys Phe Lys Ala Ile Arg Cys Glu Lys Glu Glu Ala
            1155                    1160                    1165
Ala Thr Gln Ser Ser Glu Lys Tyr Thr Phe Ala Asp Ile Ile Phe Gly
        1170                    1175                    1180
Asn Glu Gln Ile Ile Ser Ser Ala Ser Pro Cys Ala Asp Phe Phe Tyr
1185                    1190                    1195                    1200
Arg Ser Leu Ser Ser Glu Leu Lys Lys Pro Gln Ala His Leu Pro Val
                1205                    1210                    1215
His Thr Glu Lys Gln Ser Thr Glu Asp Ala Val Arg Leu Ile Gln Lys
            1220                    1225                    1230
Cys Ser Glu Val Asp Leu Asn Ile Val Ile Leu Trp Lys Ala Tyr Val
        1235                    1240                    1245
Val Glu Asp Ser Lys Gln Leu Ile Leu Glu Gly Gln His His Val Ile
        1250                    1255                    1260
Leu Arg Thr Ile Gly Lys Glu Ala Phe Ser Tyr Pro Gln Lys Gln Glu
1265                    1270                    1275                    1280
Pro Pro Glu Met Glu Leu Leu Lys Phe Phe Arg Pro Glu Asn Ile Thr
                1285                    1290                    1295
Val Ser Ser Arg Pro Ser Val Glu Gln Leu Ser Ser Leu Ile Lys Thr
            1300                    1305                    1310
Ser Leu His Tyr Pro Glu Ser Phe Asn His Pro Phe His Gln Lys Ser
        1315                    1320                    1325
Leu Cys Leu Val Pro Val Thr Leu Leu Leu Ser Asn Cys Ser Lys Ala
        1330                    1335                    1340
Asp Val Asp Val Ile Val Asp Leu Arg His Lys Thr Thr Ser Pro Glu
1345                    1350                    1355                    1360
Ala Leu Glu Ile His Gly Ser Phe Thr Trp Leu Gly Gln Thr Gln Tyr
                1365                    1370                    1375
Lys Leu Gln Leu Lys Ser Gln Glu Ile His Ser Leu Gln Leu Lys Ala
            1380                    1385                    1390
Cys Phe Val His Thr Gly Val Tyr Asn Leu Gly Thr Pro Arg Val Phe
        1395                    1400                    1405
Ala Lys Leu Ser Asp Gln Val Thr Val Phe Glu Thr Ser Gln Gln Asn
    1410                    1415                    1420
Ser Met Pro Ala Leu Ile Ile Ile Ser Asn Val
1425                    1430                    1435
```

<210> 3915
<211> 1802
<212> DNA
<213> Homo sapiens

<400> 3915
tcgactcgct ggtacaacct tctcagctac aaatacttga agaagcagag cagggagctc
60

```
aagccagtgg gagttatggc ccctgcctca gggcctgcca gcacggacgc tgtgtctgct
120
ctgttggaac agacagcagt ggagctggag aagaggcagg agggcaggag cagcacacag
180
acactggaag acagctggag gtatgaggag accagtgaga atgaggcagt agccgaggaa
240
gaggaggagg aggtggagga ggagggagaa gaggatgttt tcaccgagaa agcctcacct
300
gatatggatg ggtacccagc attaaaggtg acaaagaga ccaacacgga gaccccggcc
360
ccatccccca cagtggtgcg acctaaggac cggagagtgg gcaccccgtc ccaggggcca
420
tttcttcgag ggagcaccat catccgctct aagaccttct ccccaggacc ccagagccag
480
tacgtgtgcc ggctgaatcg gagtgatagt gacagctcca ctctgtccaa aaagccacct
540
tttgttcgaa actccctgga gcgacgcagc gtccggatga gcggccgtc cccacccca
600
cagccttcct cggtcaagtc gctgcgctcc gagcgtctga tccgtacctc gctggacctg
660
gagttagacc tgcaggcgac aagaacctgg cacagccaat tgacccagga gatctcggtg
720
ctgaaggagc tcaaggagca gctggaacaa gccaagagcc acggggagaa ggagctgcca
780
cagtggttgc gtgaggacga gcgtttccgc ctgctgctga ggatgctgga gaagcggcag
840
atggaccgag cggagcacaa gggtgagctt cagacagaca agatgatgag ggcagctgcc
900
aaggatgtgc acaggctccg aggccagagc tgtaaggaac ccccagaagt tcagtctttc
960
agggagaaga tggcattttt cacccggcct cggatgaata tcccagctct ctctgcagat
1020
gacgtctaat cgccagaaaa gtatttcctt tgttccactg accaggctgt gaacattgac
1080
tgtggctaaa gttatttatg tggtgttata tgaaggtact gagtcacaag tcctctagtg
1140
ctcttgttgg tttgaagatg aaccgacttt ttagtttggg tcctactgtt gttattaaaa
1200
acagaacaaa aacaaaacac acacacacac aaaaacagaa acaaaaaaaa ccagcattaa
1260
aataataaga ttgtatagtt tgtatattta ggagtgtatt tttgggaaag aaaatttaaa
1320
tgaactaaag cagtattgag ttgctgctct tcttaaaatc gtttagattt tttttggttt
1380
gtacagctcc accttttaga ggtcttactg caataagaag taatgcctgg gggacggtaa
1440
tcctaatagg acgtcccgca cttgtcacag tacagctaat ttttcctagt taacatattt
1500
tgtacaatat taaaaaaatg cacagaaacc attggggggg attcagaggt gcatccacgg
1560
atcttcttga gctgtgacgt gtttttatgt ggctgcccaa cgtggagcgg gcagtgtgat
1620
aggctgggtg ggctaagcag cctagtctat gtgggtgaca ggccacgctg gtctcagatg
1680
```

```
cccagtgaag ccactaacat gagtgagggg agggctgtgg ggaactccat tcagttttat
1740
ctccatcaat aaagtggcct ttcaaaaaga aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1800
aa
1802
```

<210> 3916
<211> 342
<212> PRT
<213> Homo sapiens

<400> 3916

```
Ser Thr Arg Trp Tyr Asn Leu Leu Ser Tyr Lys Tyr Leu Lys Lys Gln
 1               5                  10                  15
Ser Arg Glu Leu Lys Pro Val Gly Val Met Ala Pro Ala Ser Gly Pro
            20                  25                  30
Ala Ser Thr Asp Ala Val Ser Ala Leu Leu Glu Gln Thr Ala Val Glu
         35                  40                  45
Leu Glu Lys Arg Gln Glu Gly Arg Ser Ser Thr Gln Thr Leu Glu Asp
      50                  55                  60
Ser Trp Arg Tyr Glu Glu Thr Ser Glu Asn Glu Ala Val Ala Glu Glu
65                  70                  75                  80
Glu Glu Glu Glu Val Glu Glu Glu Gly Glu Glu Asp Val Phe Thr Glu
                85                  90                  95
Lys Ala Ser Pro Asp Met Asp Gly Tyr Pro Ala Leu Lys Val Asp Lys
               100                 105                 110
Glu Thr Asn Thr Glu Thr Pro Ala Pro Ser Pro Thr Val Val Arg Pro
            115                 120                 125
Lys Asp Arg Arg Val Gly Thr Pro Ser Gln Gly Pro Phe Leu Arg Gly
         130                 135                 140
Ser Thr Ile Ile Arg Ser Lys Thr Phe Ser Pro Gly Pro Gln Ser Gln
145                 150                 155                 160
Tyr Val Cys Arg Leu Asn Arg Ser Asp Ser Asp Ser Ser Thr Leu Ser
               165                 170                 175
Lys Lys Pro Pro Phe Val Arg Asn Ser Leu Glu Arg Arg Ser Val Arg
            180                 185                 190
Met Lys Arg Pro Ser Pro Pro Gln Pro Ser Ser Val Lys Ser Leu
         195                 200                 205
Arg Ser Glu Arg Leu Ile Arg Thr Ser Leu Asp Leu Glu Leu Asp Leu
      210                 215                 220
Gln Ala Thr Arg Thr Trp His Ser Gln Leu Thr Gln Glu Ile Ser Val
225                 230                 235                 240
Leu Lys Glu Leu Lys Glu Gln Leu Glu Gln Ala Lys Ser His Gly Glu
               245                 250                 255
Lys Glu Leu Pro Gln Trp Leu Arg Glu Asp Glu Arg Phe Arg Leu Leu
            260                 265                 270
Leu Arg Met Leu Glu Lys Arg Gln Met Asp Arg Ala Glu His Lys Gly
         275                 280                 285
Glu Leu Gln Thr Asp Lys Met Met Arg Ala Ala Ala Lys Asp Val His
      290                 295                 300
Arg Leu Arg Gly Gln Ser Cys Lys Glu Pro Pro Glu Val Gln Ser Phe
305                 310                 315                 320
Arg Glu Lys Met Ala Phe Phe Thr Arg Pro Arg Met Asn Ile Pro Ala
```

```
                    325                    330                    335
     Leu Ser Ala Asp Asp Val
                    340


<210> 3917
<211> 597
<212> DNA
<213> Homo sapiens


<400> 3917
ntttgtgctc tctgcgtggc taagtttttc acctactagg acgggggtgg ggtggggaga
60
acaggtgtcc ttctaaaata cagcacaagc tacagcctgc gtccagccat aacccaggag
120
taacatcaga aacaggtgag aatgaccact ttaactcacc gggcccgtcg cactgaaata
180
agcaagaact ctgaaaagaa gatggaaagt gaggaagaca gtaattggga gaaaagtcca
240
gacaatgaag attctggaga ctctaaggat atccgcctta ctcttatgga gaagtattg
300
cttctgggac taaaagataa agaggggtac acatctttct ggaatgactg catatcatca
360
ggcctgcgag ggggcatcct gatagagctg gccatgcggg gtcgaatcta tctggaaccc
420
ccgaccatgc gtaagaagcg actactagac agaaaggtac tgctaaagtc agacagccca
480
acaggtgatg tttttactgga tgaaactctg aaacacatca aagcaactga acccacagaa
540
actgtccaaa catggataga gctactcact ggtgagacct ggaacccctt caaatta
597


<210> 3918
<211> 152
<212> PRT
<213> Homo sapiens


<400> 3918
Met Thr Thr Leu Thr His Arg Ala Arg Arg Thr Glu Ile Ser Lys Asn
 1               5                  10                  15
Ser Glu Lys Lys Met Glu Ser Glu Glu Asp Ser Asn Trp Glu Lys Ser
            20                  25                  30
Pro Asp Asn Glu Asp Ser Gly Asp Ser Lys Asp Ile Arg Leu Thr Leu
        35                  40                  45
Met Glu Glu Val Leu Leu Leu Gly Leu Lys Asp Lys Glu Gly Tyr Thr
    50                  55                  60
Ser Phe Trp Asn Asp Cys Ile Ser Ser Gly Leu Arg Gly Gly Ile Leu
65                  70                  75                  80
Ile Glu Leu Ala Met Arg Gly Arg Ile Tyr Leu Glu Pro Pro Thr Met
                85                  90                  95
Arg Lys Lys Arg Leu Leu Asp Arg Lys Val Leu Leu Lys Ser Asp Ser
            100                 105                 110
Pro Thr Gly Asp Val Leu Leu Asp Glu Thr Leu Lys His Ile Lys Ala
        115                 120                 125
Thr Glu Pro Thr Glu Thr Val Gln Thr Trp Ile Glu Leu Leu Thr Gly
```

3080

```
    130              135              140
Glu Thr Trp Asn Pro Phe Lys Leu
145              150
```

<210> 3919
<211> 1278
<212> DNA
<213> Homo sapiens

<400> 3919
```
nntccggagg agctggaggc cctgtcgagg agcatggtgc tccacctgcg gaggctcatc
60
gaccagcggg acgagtgcac cgagctgatc gtggacctca ctcaggaacg ggactacctg
120
caggcacagc atccacccag ccccatcaag tcctccagcg ccgactccac tcccagcccc
180
accagcagcc tctctagcga agacaagcag cacctggccg tagagctggc cgacaccaag
240
gccaggctgc ggcgcgtcag gcaggagctg gaggataaga cagagcagct tgtggacacc
300
agacatgagg tggaccagct ggtgctggaa ctgcagaaag ttaagcagga gaacatccag
360
ctagcggcag acgcccggtc tgctcgtgcc tatcgagacg agctggattc cctgcgggag
420
aaggcgaacc gcgtggagag gctggagctg gagctgaccc gctgcaagga gaagctgcac
480
gacgtggact tctacaaggc ccgcatggag gagctgagag aagataatat cattttaatt
540
gaaaccaagg ccatgctgga ggaacagctg actgctgctc gggcccgggg cgataaagtc
600
catgagctgg aaaaggagaa cctgcagctg aaatccaagc ttcacgacct ggaattggac
660
cgggacacag ataagaaacg aattgaggag ctgctggaag aaaacatggt ccttgagatt
720
gcacagaagc agagcatgaa cgaatctgcc caccttggct gggagctgga gcagctgtcc
780
aagaacgcag acttgtcaga cgcctccagg aagtcgtttg tgtttgagct gaacgaatgt
840
gcgtccagcc gcatcctgaa gctggagaag gagaatcaga gcctccagag caccatccag
900
gggctgcggg acgcgtccct ggtgttggag gagagcggcc tcaagtgcgg ggagctggag
960
aaggagaacc accagctcag caagaagatt gaaaagttac aaacccagct ggagagagaa
1020
aagcagagca accaagatct ggagaccctc agtgaggagc tgatcagaga gaaggagcag
1080
ctgcagagtg acatggagac cctgaaggct gacaaagcca ggcagatcaa ggaccttgag
1140
caggaaaagg accacctcaa ccgagccatg tggtcgctgc gggagaggtc gcaggtcagc
1200
agtgaggccc gcatgaaaga cgtggagaag gagaacaaag ccctccacca gacggtgacg
1260
gaggccaatg gcaagctt
1278
```

<210> 3920
<211> 426
<212> PRT
<213> Homo sapiens

<400> 3920
Xaa Pro Glu Glu Leu Glu Ala Leu Ser Arg Ser Met Val Leu His Leu
 1   5   10   15
Arg Arg Leu Ile Asp Gln Arg Asp Glu Cys Thr Glu Leu Ile Val Asp
            20   25   30
Leu Thr Gln Glu Arg Asp Tyr Leu Gln Ala Gln His Pro Pro Ser Pro
        35   40   45
Ile Lys Ser Ser Ser Ala Asp Ser Thr Pro Ser Pro Thr Ser Ser Leu
    50   55   60
Ser Ser Glu Asp Lys Gln His Leu Ala Val Glu Leu Ala Asp Thr Lys
65   70   75   80
Ala Arg Leu Arg Arg Val Arg Gln Glu Leu Glu Asp Lys Thr Glu Gln
            85   90   95
Leu Val Asp Thr Arg His Glu Val Asp Gln Leu Val Leu Glu Leu Gln
            100   105   110
Lys Val Lys Gln Glu Asn Ile Gln Leu Ala Ala Asp Ala Arg Ser Ala
        115   120   125
Arg Ala Tyr Arg Asp Glu Leu Asp Ser Leu Arg Glu Lys Ala Asn Arg
    130   135   140
Val Glu Arg Leu Glu Leu Glu Leu Thr Arg Cys Lys Glu Lys Leu His
145   150   155   160
Asp Val Asp Phe Tyr Lys Ala Arg Met Glu Glu Leu Arg Glu Asp Asn
                165   170   175
Ile Ile Leu Ile Glu Thr Lys Ala Met Leu Glu Glu Gln Leu Thr Ala
            180   185   190
Ala Arg Ala Arg Gly Asp Lys Val His Glu Leu Glu Lys Glu Asn Leu
        195   200   205
Gln Leu Lys Ser Lys Leu His Asp Leu Glu Leu Asp Arg Asp Thr Asp
    210   215   220
Lys Lys Arg Ile Glu Glu Leu Leu Glu Glu Asn Met Val Leu Glu Ile
225   230   235   240
Ala Gln Lys Gln Ser Met Asn Glu Ser Ala His Leu Gly Trp Glu Leu
            245   250   255
Glu Gln Leu Ser Lys Asn Ala Asp Leu Ser Asp Ala Ser Arg Lys Ser
            260   265   270
Phe Val Phe Glu Leu Asn Glu Cys Ala Ser Ser Arg Ile Leu Lys Leu
        275   280   285
Glu Lys Glu Asn Gln Ser Leu Gln Ser Thr Ile Gln Gly Leu Arg Asp
    290   295   300
Ala Ser Leu Val Leu Glu Glu Ser Gly Leu Lys Cys Gly Glu Leu Glu
305   310   315   320
Lys Glu Asn His Gln Leu Ser Lys Lys Ile Glu Lys Leu Gln Thr Gln
                325   330   335
Leu Glu Arg Glu Lys Gln Ser Asn Gln Asp Leu Glu Thr Leu Ser Glu
            340   345   350
Glu Leu Ile Arg Glu Lys Glu Gln Leu Gln Ser Asp Met Glu Thr Leu
        355   360   365
Lys Ala Asp Lys Ala Arg Gln Ile Lys Asp Leu Glu Gln Glu Lys Asp

```
           370                 375                 380
His Leu Asn Arg Ala Met Trp Ser Leu Arg Glu Arg Ser Gln Val Ser
385                 390                 395                 400
Ser Glu Ala Arg Met Lys Asp Val Glu Lys Glu Asn Lys Ala Leu His
                405                 410                 415
Gln Thr Val Thr Glu Ala Asn Gly Lys Leu
            420                 425
```

<210> 3921
<211> 413
<212> DNA
<213> Homo sapiens

<400> 3921
tctagaaagg tcaggcaccg gacagctgaa accatggcag ccggcaacag gaagtgccct
60
ccctgggtgc tcaaagatcc aagacagccg ggccctgtgt ttgtaggaac aagattccag
120
atgcctctgc tgcttgccag cctcgtgacc ttcattcatg cagggccttg ttttcttgat
180
tcagtggggc caatcccggc ccccagggga gatggatgct gcagggatgt gcaagctgta
240
gagggttcca gagaatgggc ctggcgttct gcaagcctgg cacccctcct ggatgctttt
300
ctccagccct tggagcttag gcagtgtagt gttaggatga ttattggatt cctccacag
360
ttcctggctc attcttttgt agcccttgtt acagcctttt gtgataatat tgg
413

<210> 3922
<211> 126
<212> PRT
<213> Homo sapiens

<400> 3922
```
Met Ala Ala Gly Asn Arg Lys Cys Pro Pro Trp Val Leu Lys Asp Pro
  1               5                  10                  15
Arg Gln Pro Gly Pro Val Phe Val Gly Thr Arg Phe Gln Met Pro Leu
                20                  25                  30
Leu Leu Ala Ser Leu Val Thr Phe Ile His Ala Gly Pro Cys Phe Leu
            35                  40                  45
Asp Ser Val Gly Pro Ile Pro Ala Pro Arg Gly Asp Gly Cys Cys Arg
          50                  55                  60
Asp Val Gln Ala Val Glu Gly Ser Arg Glu Trp Ala Trp Arg Ser Ala
65                  70                  75                  80
Ser Leu Ala Pro Leu Leu Asp Ala Phe Leu Gln Pro Leu Glu Leu Arg
                85                  90                  95
Gln Cys Ser Val Arg Met Ile Ile Gly Phe Pro Pro Gln Phe Leu Ala
              100                 105                 110
His Ser Phe Val Ala Leu Val Thr Ala Phe Cys Asp Asn Ile
          115                 120                 125
```

<210> 3923
<211> 820

<212> DNA
<213> Homo sapiens

<400> 3923
ggtcgacccc cggccatgtt gctggaccgt aggagatact gatccacact tcctttttcgc
60
cggctcacag tccgcctctc attgtcgaac atgcgctgca actgcagagc caactgtcgg
120
tcttcttcct cttgctgaag cttctgctcc atctctcgca ggactgggtc tgttggggcc
180
agacccacct ccccactggt ttgtcgcagt tttttaaggg agccattttg ttctaagtgc
240
ttggtcttgc agtgtctttt ccggcctcga cgcaaagaag gaagtggctc ttcacttagg
300
ctctcaacta gaacaccatt agtcagatca aaatgattta atgtcttcaa ttgttgcttt
360
gttttgagga ctccacccaa aacactgttt tggggtagca ctgaattaac tgtggtgatt
420
ttcatggctc tgcttataca ggttttgtct aacttggcat ctggagttga ccctaacccc
480
tcaaactgct ccctctccaa agaagtccca ctgcctcccc ctttgagttc tgaggaacag
540
caggtttcca gtgggatctc agtgctactt ttattatcac tgtcctgttc tgctttttgtt
600
tggctaacag aggggaaatg atcaagatca gcagaggtgg gtccagtata ctcagagagg
660
acctgcccac cagataatct tgtatttaca gccacaagtg gcttctcctt gctagaatgg
720
ataccttcag agcctagtaa ctcttcccccc atttcaggag ccagagaggt aagagtggct
780
tttgaaaggg tctttttgat ctgccgctcc tgaaagatct
820

<210> 3924
<211> 250
<212> PRT
<213> Homo sapiens

<400> 3924
Met Gly Glu Glu Leu Leu Gly Ser Glu Gly Ile His Ser Ser Lys Glu
1   5   10   15
Lys Pro Leu Val Ala Val Asn Thr Arg Leu Ser Gly Gly Gln Val Leu
                20   25   30
Ser Glu Tyr Thr Gly Pro Thr Ser Ala Asp Leu Asp His Phe Pro Ser
        35   40   45
Val Ser Gln Thr Lys Ala Glu Gln Asp Ser Asp Asn Lys Ser Ser Thr
        50   55   60
Glu Ile Pro Leu Glu Thr Cys Cys Ser Ser Glu Leu Lys Gly Gly Gly
65   70   75   80
Ser Gly Thr Ser Leu Glu Arg Glu Gln Phe Glu Gly Leu Gly Ser Thr
                85   90   95
Pro Asp Ala Lys Leu Asp Lys Thr Cys Ile Ser Arg Ala Met Lys Ile
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Thr Thr Val Asn Ser Val Leu Pro Gln Asn Ser Val Leu Gly Gly Val

3084

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Leu Lys Thr Lys Gln Gln Leu Lys Thr Leu Asn His Phe Asp Leu Thr
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Asn Gly Val Leu Val Glu Ser Leu Ser Glu Glu Pro Leu Pro Ser Leu
145                    150                    155                    160
Arg Arg Gly Arg Lys Arg His Cys Lys Thr Lys His Leu Glu Gln Asn
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Gly Ser Leu Lys Lys Leu Arg Gln Thr Ser Gly Glu Val Gly Leu Ala
              180                    185                    190
Pro Thr Asp Pro Val Leu Arg Glu Met Glu Gln Lys Leu Gln Gln Glu
         195                    200                    205
Glu Glu Asp Arg Gln Leu Ala Leu Gln Leu Gln Arg Met Phe Asp Asn
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<210> 3925
<211> 3296
<212> DNA
<213> Homo sapiens

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3085

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2520
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<211> 683
<212> PRT
<213> Homo sapiens

<400> 3926

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            20                  25                  30
Thr Arg Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser
        35                  40                  45
Val Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn
    50                  55                  60
Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu Val
65                  70                  75                  80
Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu Gly Tyr
                85                  90                  95
Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys Gln Val Ser
            100                 105                 110
Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His Lys Gly Tyr Lys
        115                 120                 125
Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala Gln Asn Arg Pro Glu
    130                 135                 140
Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr Tyr Ser Met Val Ala Val
145                 150                 155                 160
Pro Leu Tyr Asp Thr Leu Gly Pro Glu Ala Ile Val His Ile Val Asn
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Lys Ala Asp Ile Ala Met Val Ile Cys Asp Thr Pro Gln Lys Ala Leu
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Val Leu Ile Gly Asn Val Glu Lys Gly Phe Thr Pro Ser Leu Lys Val
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Ile Ile Leu Met Asp Pro Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu
    210                   215                   220
Lys Ser Gly Ile Glu Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Asp
225                   230                   235                   240
Lys Glu His Phe Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser
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Val Ile Cys Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met
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Ile Thr His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys
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Val Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr
    290                   295                   300
Leu Pro Leu Ala His Met Phe Glu Arg Ile Val Gln Ala Val Val Tyr
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Ser Cys Gly Ala Arg Val Gly Phe Phe Gln Gly Asp Ile Arg Leu Leu
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Ala Asp Asp Met Lys Thr Leu Lys Pro Thr Leu Phe Pro Ala Val Pro
            340                   345                   350
Arg Leu Leu Asn Arg Ile Tyr Asp Lys Val Gln Asn Glu Ala Lys Thr
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Pro Leu Lys Lys Phe Leu Leu Lys Leu Ala Val Ser Ser Lys Phe Lys
    370                   375                   380
Glu Leu Gln Lys Gly Ile Ile Arg His Asp Ser Phe Trp Asp Lys Leu
385                   390                   395                   400
Ile Phe Ala Lys Ile Gln Asp Ser Leu Gly Gly Arg Val Arg Val Ile
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Val Thr Gly Ala Ala Pro Ile Ser Thr Pro Val Leu Thr Phe Phe Arg
        420                   425                   430
Ala Ala Met Gly Cys Trp Val Phe Glu Ala Tyr Gly Gln Thr Glu Cys
        435                   440                   445
Thr Gly Gly Cys Thr Phe Thr Leu Pro Gly Asp Trp Thr Ser Gly His
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Val Gly Val Pro Leu Ala Cys Asn Tyr Val Lys Leu Glu Asp Val Ala
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Asp Met Asn Tyr Phe Thr Val Asn Asn Glu Gly Glu Val Cys Ile Lys
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Gly Thr Asn Val Phe Lys Gly Tyr Leu Lys Asp Pro Glu Lys Thr Gln
            500                   505                   510
Glu Ala Leu Asp Ser Asp Gly Trp Leu His Thr Gly Asp Ile Gly Arg
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Trp Leu Pro Asn Gly Thr Leu Lys Ile Ile Asp Arg Lys Lys Asn Ile
        530                   535                   540
Phe Lys Leu Ala Gln Gly Glu Tyr Ile Ala Pro Glu Lys Ile Glu Asn
545                   550                   555                   560
Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His Gly Glu
                565                   570                   575
Ser Leu Arg Ser Ser Leu Val Gly Val Val Val Pro Asp Thr Asp Val
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Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly Ser Phe Glu Glu
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           595                      600                      605
Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile Leu Glu Asp Leu Gln
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Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr Phe Glu Gln Val Lys Ala
625                      630                  635                  640
Ile Phe Leu His Pro Glu Pro Phe Ser Ile Glu Asn Gly Leu Leu Thr
                    645                  650                  655
Pro Thr Leu Lys Ala Lys Arg Gly Glu Leu Ser Lys Tyr Phe Arg Thr
                660                  665                  670
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<210> 3927
<211> 3197
<212> DNA
<213> Homo sapiens

<400> 3927
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<210> 3928
<211> 180
<212> PRT
<213> Homo sapiens

<400> 3928
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            20   25   30
Asp Ser Ser Ser Arg Arg Arg Arg Ser Cys Cys Thr Gly Ser Leu Gly
            35   40   45
Pro Met Pro Arg Leu Pro Ser Leu Trp Pro Leu Ser Leu Pro Leu Arg
    50   55   60
Ser Leu Ser Ser Pro His Arg Val Gln Gly Leu Gly Pro Pro Arg Arg
65   70   75   80
Leu Lys Ser Gln Leu Leu Pro Arg Phe Phe Trp Arg Arg Gln Gln Glu
                85   90   95
Pro Leu Ser Ser Phe Pro Gly Arg Asn Glu Gly Gly Ser Glu Met Glu
                100   105   110
Ile Leu Gly Val Cys Pro Val Ser Pro Gly Ala Leu Ser Tyr Met Glu
            115   120   125
Ser Pro Thr Gly Phe Trp Arg Pro Arg Glu Ala Ser Ser Leu Glu Leu
    130   135   140
Ala Lys Gly Ile Ser Lys Arg Arg His Phe Leu Pro Ala Pro Ala Leu
145   150   155   160
Cys Pro Asn Pro Arg Ser Ser Glu Ala Phe Pro Gly Ala Val Cys Val
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Thr Leu Ala Ile
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<210> 3929
<211> 470
<212> DNA
<213> Homo sapiens

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470

<210> 3930
<211> 115
<212> PRT
<213> Homo sapiens

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            20   25   30
Gln Ser Glu Asn Glu Ala Ser Pro Val Lys Arg Pro Arg Leu Leu Glu
        35   40   45
Asn Thr Glu Arg Ser Glu Glu Thr Ser Arg Ser Lys Gln Lys Ser Arg
    50   55   60
Arg Arg Cys Phe Gln Cys Gln Thr Lys Leu Glu Leu Val Gln Gln Glu
65   70   75   80
Leu Gly Ser Cys Arg Cys Gly Tyr Val Phe Cys Met Leu His Arg Leu
                85   90   95
Pro Glu Gln His Asp Cys Thr Phe Asp His Met Gly Val Ala Gly Arg
                100   105   110
Ser His His
        115

<210> 3931
<211> 3568
<212> DNA
<213> Homo sapiens

<400> 3931
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180

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420
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1800
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3094

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<210> 3932
<211> 293
<212> PRT
<213> Homo sapiens

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Ala Phe Trp Ala Pro Phe Gly Cys Ala Trp Trp Arg Arg Pro His Cys
            20   25   30
Cys His Tyr Trp Lys Ser Ser Ser Ile Glu Glu Arg Gly Tyr Trp Gly
        35   40   45
Ser Gly Ser Ala Ile Met Ala Pro Ala Pro Phe Arg Ser Gln Ser Thr
    50   55   60
Arg Ser Ser Ile Glu Asp Asp Phe Asn Tyr Gly Ser Ser Val Ala Ser
65   70   75   80
Ala Thr Val His Ile Arg Met Ala Phe Leu Arg Lys Val Tyr Ser Ile
                85   90   95
Leu Ser Leu Gln Val Leu Leu Thr Thr Val Thr Ser Thr Val Phe Leu
            100   105   110
Tyr Phe Glu Ser Val Arg Thr Phe Val His Glu Ser Pro Ala Leu Ile
        115   120   125
Leu Leu Phe Ala Leu Gly Ser Leu Gly Leu Ile Phe Ala Leu Thr Leu
    130   135   140
Asn Arg His Lys Tyr Pro Leu Asn Leu Tyr Leu Leu Phe Gly Phe Thr
145   150   155   160
Leu Leu Glu Ala Leu Thr Val Ala Val Val Val Thr Phe Tyr Asp Val
                165   170   175
Tyr Ile Ile Leu Gln Ala Phe Ile Leu Thr Thr Thr Val Phe Phe Gly
            180   185   190
Leu Thr Val Tyr Thr Leu Gln Ser Lys Lys Asp Phe Ser Lys Phe Gly
        195   200   205
Ala Gly Leu Phe Ala Leu Leu Trp Ile Leu Cys Leu Ser Gly Phe Leu
    210   215   220
Lys Phe Phe Phe Tyr Ser Glu Ile Met Glu Leu Val Leu Ala Ala Ala
225   230   235   240
Gly Ala Leu Leu Phe Cys Gly Phe Ile Ile Tyr Asp Thr His Ser Leu
                245   250   255
Met His Lys Leu Ser Pro Glu Glu Tyr Val Leu Ala Ala Ile Ser Leu
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Tyr Leu Asp Ile Ile Asn Leu Phe Leu His Leu Leu Arg Phe Leu Glu
        275   280   285
Ala Val Asn Lys Lys
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<210> 3933
<211> 4082

3095

<212> DNA
<213> Homo sapiens

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<210> 3934
<211> 130
<212> PRT
<213> Homo sapiens

<400> 3934
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Pro Ser Arg Arg Ala His Ser Leu Thr Thr Ala Gly Ser Pro Asn Leu
            20   25   30
Ala Ala Gly Thr Ser Ser Pro Ile Arg Pro Val Ser Ser Pro Val Leu
        35   40   45
Ser Ser Ser Asn Lys Ser Pro Ser Ser Ala Trp Ser Ser Ser Ser Trp
    50   55   60
His Gly Arg Ile Lys Gly Gly Met Lys Gly Phe Gln Ser Phe Met Val
65   70   75   80
Ser Asp Ser Asn Met Ser Phe Val Glu Phe Val Glu Leu Phe Lys Ser
                85   90   95
Phe Ser Val Arg Ser Arg Lys Asp Leu Lys Asp Leu Phe Asp Xaa Leu

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    Cys Ser Ala Leu Gln Pro Xaa Leu Ala Pro Ser Gln Pro His Ser Thr
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Pro Thr
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<210> 3935
<211> 1103
<212> DNA
<213> Homo sapiens

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<210> 3936
<211> 265
<212> PRT

<213> Homo sapiens

<400> 3936
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             20   25   30
Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val Gln Arg Val
         35   40   45
Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg Ala Cys Ser Thr
     50   55   60
Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg Ser Pro Gly Leu Ala
65   70   75   80
Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro Gly Trp Lys Arg Thr Ser
             85   90   95
Gly Leu Pro Gly Ala Cys Gly Ala Ala Ile Cys Gln Pro Pro Cys Arg
             100   105   110
Asn Gly Gly Ser Cys Val Gln Pro Gly Arg Cys Arg Cys Pro Ala Gly
             115   120   125
Trp Arg Gly Asp Thr Cys Gln Ser Asp Val Asp Glu Cys Ser Ala Arg
     130   135   140
Arg Gly Gly Cys Pro Gln Arg Cys Val Asn Thr Ala Gly Ser Tyr Trp
145   150   155   160
Cys Gln Cys Trp Glu Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys
             165   170   175
Val Pro Lys Gly Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Lys
             180   185   190
Gln Pro Trp Leu Cys Leu Ala Trp Gly Gly Gly Gln Ala Val Asp Ile
             195   200   205
Ala Val Trp Leu Leu Gly Met Val Gly Gly Thr Gly Ile Trp Ala Glu
     210   215   220
Gly Gly Gly Asp Ser Leu Ser Arg Glu Gly Gly Trp Gly Gly Arg Ile
225   230   235   240
Gly Gly Phe Pro Arg Thr Gly Gly Arg Leu Pro Gly Ala Ser Tyr Gln
             245   250   255
Pro Arg Arg Gln Lys Cys Pro Val Pro
             260   265

<210> 3937
<211> 744
<212> DNA
<213> Homo sapiens

<400> 3937
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180
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240
cccgggagag cggcggaagc aggaaatgct aaaggagatg ccactgcagg acccaaggag
300

3100

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744

<210> 3938
<211> 154
<212> PRT
<213> Homo sapiens

<400> 3938
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Gly His Val Leu Leu Ala Glu Asn Ala Asp Leu Ser Arg Asn Ala Gly
            20   25   30
Arg Arg Gly Trp Arg Gly Leu Arg Ala Pro Arg Tyr Arg Asp Pro Gly
        35   40   45
Arg Ala Ala Glu Ala Gly Asn Ala Lys Gly Asp Ala Thr Ala Gly Pro
    50   55   60
Lys Glu Gln Gly Gly Gly Gly Gln Asp Pro Ala Ala Ile Ala Gly His
65   70   75   80
Ser Ala Gly Gly Ser Asp His Ala Gly Glu Arg Gly Leu Xaa Gly Arg
                85   90   95
Thr Gly Trp Leu Ala Ala Lys Ala Ala Pro Ala Gly Gly His Arg Glu
            100   105   110
Thr Gly Leu Ala Ser Val Gly Ala Gly Pro Trp Leu Gly Arg Arg Asn
            115   120   125
Pro Arg Gln Pro Phe Ser Phe Val Gly Pro Ala Glu Ser Pro Asp Arg
        130   135   140
Asp Thr Met Pro Gly Leu Ser Gly Val Leu
145   150

<210> 3939
<211> 490
<212> DNA
<213> Homo sapiens

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120

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240
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<210> 3940
<211> 62
<212> PRT
<213> Homo sapiens


<400> 3940
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Thr Asp Arg Gln Thr Gly Lys Val Arg Trp Lys His Thr Glu Asp Glu
            20                  25                  30
Arg Asp Arg Gln Trp Glu Ala Glu Leu Lys Thr Val Lys Glu Arg Ala
        35                  40                  45
Thr Asp Ser Glu Gly Gly Arg Asp Arg Leu Glu Pro Phe Leu
    50                  55                  60


<210> 3941
<211> 2077
<212> DNA
<213> Homo sapiens


<400> 3941
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540
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660
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1680
tgctgcactc cggcttcccc cagctccagg tgctctagga ggagtaggta ctcttacgca
1740
tcgtgcagaa gagaagtctg aggctgcctc tcttctgcct gcaggtcatg tggctgccta
1800
gcaggcagag gcccctggtg cggaaggtgg ctcccggctt ccaacagaca tcaggctcca
1860
aggaggcagt cgccagcctg cggagaggcc acatccagcg gctgaacctg cgctacactc
1920
aggtgtcccg ccagcgtcca ggtgcctgcc ctgccctggg ctcctccagg agagggtggg
1980
actgagtctc taacagtcct gccaccacca ccccccaaca cacacacaca cacacacaca
2040
ctgtcgggca gagggatggg cacacagagg tatcagg
2077

<210> 3942

3103

<210> 89
<212> PRT
<213> Homo sapiens

<400> 3942
Ala Pro Tyr Phe Pro Glu Gly Ala Pro Gly Leu Gln Gly His Leu Lys
1   5   10   15
Gly Trp Ser Pro Gly Pro Ala Gly Pro Gln Gly Thr Gly Ser Pro Pro
            20   25   30
Gln Glu Arg Leu Arg Leu Thr Arg Gly Trp Ser Pro Gln Gly Gly Cys
        35   40   45
Gly Ala Arg Ser Gln Ser Thr Pro Ser Ser Asp Thr Leu Pro Pro Ala
    50   55   60
Leu Leu Gly Ser Pro Ala Ser Val Ser Gly Thr Gly Gly Thr Asp Met
65   70   75   80
Ser Ser Ala Asn Ala His Ser Ala Leu
                85

<210> 3943
<211> 1524
<212> DNA
<213> Homo sapiens

<400> 3943
tctagacaaa aatccgcttc agaaataggc tgcgggcggc cggctaggag gcttggcccc
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accccgggac ccccgccgtc cccgggccgg ccggcggtgg gcacgatgag ccaggtgctg
120
gggaagccgc agccgcagga cgaggacgac gcggaggagg aggaggagga ggatgagctg
180
gtggggctag cggactacgg agacgggccc gactcctccg acgccgatcc ggacagcggc
240
acagaggagg gagttctgga cttcagtgac cccttcagca ctgaagtgaa gccgagaatc
300
ctgctcatgg gcctgaggag aagcggcaag tcgtctattc agaaagttgt ctttcacaaa
360
atgtctccca cgaaactct gttcttggag agcactaata agatatgccg ggaagatgtt
420
tccaacagct cctttgtcaa ttttcagatt tgggacttcc caggacagat tgactttttt
480
gaccctacat ttgactatga gatgatcttc cggggaacag gagcattgat atttgtcatt
540
gacgcacagg atgactacat ggaggcttta acaagacttc acattactgt ttctaaagcc
600
tacaaagtta acccagacat gaattttgag gttttattc ataaagttga tggtctgtct
660
gatgatcaca aaatagaaac acagagggac attcatcaaa gggccaatga tgaccttgca
720
gatgctggat tagaaaaaat tcacctcagc tttatctga caagcatata tgatcattca
780
atatttgaag cttttagcaa agttgttcag aaactgattc cacaactccc aactctggag
840
aatttgctga acatctttat ctcaaattct ggaattgaaa aggcatttct atttgatgtg
900

gtcagtaaaa tttatattgc aactgatagt actccggtgg atatgcaaac ctatgagctc
960
tgctgtgata tgatagatgt ggttattgac atctcttgta tttatggtct caaagaagat
1020
ggagcaggaa ccccctatga caaggaatcc acagccatca taaagcttaa taatacaacc
1080
gtgctttatt taaaagaggt gacaaagttc ctggctctcg tttgctttgt cagagaggaa
1140
agctttgaaa gaaaagggct aattgactat aattttcatt gcttccggaa ggccattcat
1200
gaagtttttg aggtgagaat gaaagtagta aaatctcgaa aggttcagaa tcggctgcag
1260
aagaaaaaga gagccacccc taatgggacc cctagagtgc tgctgtaggt gaggtttcag
1320
gaatgtcttt tgaaatcaga ccttatccat gaggctgctg cgccatgttg cactaaagga
1380
agaggaagaa ggagattggg acacatacca ttgatttgtt gttaaaaaaa aaaaattcct
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gcaaccctct tgatcttctc ttttataaat aaagtaagca ctttgaagca aaaaaaaaaa
1500
aaaaaaaaaa aaaaaaaaaa aaaa
1524

<210> 3944
<211> 435
<212> PRT
<213> Homo sapiens

<400> 3944
Ser Arg Gln Lys Ser Ala Ser Glu Ile Gly Cys Gly Arg Pro Ala Arg
 1   5   10   15
Arg Leu Gly Pro Thr Pro Gly Pro Pro Pro Ser Pro Gly Arg Pro Ala
            20   25   30
Val Gly Thr Met Ser Gln Val Leu Gly Lys Pro Gln Pro Gln Asp Glu
            35   40   45
Asp Asp Ala Glu Glu Glu Glu Glu Asp Glu Leu Val Gly Leu Ala
        50   55   60
Asp Tyr Gly Asp Gly Pro Asp Ser Ser Asp Ala Asp Pro Asp Ser Gly
65   70   75   80
Thr Glu Glu Gly Val Leu Asp Phe Ser Asp Pro Phe Ser Thr Glu Val
                85   90   95
Lys Pro Arg Ile Leu Leu Met Gly Leu Arg Arg Ser Gly Lys Ser Ser
            100   105   110
Ile Gln Lys Val Val Phe His Lys Met Ser Pro Asn Glu Thr Leu Phe
            115   120   125
Leu Glu Ser Thr Asn Lys Ile Cys Arg Glu Asp Val Ser Asn Ser Ser
        130   135   140
Phe Val Asn Phe Gln Ile Trp Asp Phe Pro Gly Gln Ile Asp Phe Phe
145   150   155   160
Asp Pro Thr Phe Asp Tyr Glu Met Ile Phe Arg Gly Thr Gly Ala Leu
                165   170   175
Ile Phe Val Ile Asp Ala Gln Asp Asp Tyr Met Glu Ala Leu Thr Arg
            180   185   190
Leu His Ile Thr Val Ser Lys Ala Tyr Lys Val Asn Pro Asp Met Asn

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              195                    200                    205
    Phe Glu Val Phe Ile His Lys Val Asp Gly Leu Ser Asp Asp His Lys
              210                    215                    220
    Ile Glu Thr Gln Arg Asp Ile His Gln Arg Ala Asn Asp Asp Leu Ala
    225                    230                    235                    240
    Asp Ala Gly Leu Glu Lys Ile His Leu Ser Phe Tyr Leu Thr Ser Ile
                           245                    250                    255
    Tyr Asp His Ser Ile Phe Glu Ala Phe Ser Lys Val Val Gln Lys Leu
                           260                    265                    270
    Ile Pro Gln Leu Pro Thr Leu Glu Asn Leu Leu Asn Ile Phe Ile Ser
                           275                    280                    285
    Asn Ser Gly Ile Glu Lys Ala Phe Leu Phe Asp Val Val Ser Lys Ile
              290                    295                    300
    Tyr Ile Ala Thr Asp Ser Thr Pro Val Asp Met Gln Thr Tyr Glu Leu
    305                    310                    315                    320
    Cys Cys Asp Met Ile Asp Val Val Ile Asp Ile Ser Cys Ile Tyr Gly
                           325                    330                    335
    Leu Lys Glu Asp Gly Ala Gly Thr Pro Tyr Asp Lys Glu Ser Thr Ala
                           340                    345                    350
    Ile Ile Lys Leu Asn Asn Thr Thr Val Leu Tyr Leu Lys Glu Val Thr
                           355                    360                    365
    Lys Phe Leu Ala Leu Val Cys Phe Val Arg Glu Glu Ser Phe Glu Arg
              370                    375                    380
    Lys Gly Leu Ile Asp Tyr Asn Phe His Cys Phe Arg Lys Ala Ile His
    385                    390                    395                    400
    Glu Val Phe Glu Val Arg Met Lys Val Val Lys Ser Arg Lys Val Gln
                           405                    410                    415
    Asn Arg Leu Gln Lys Lys Lys Arg Ala Thr Pro Asn Gly Thr Pro Arg
                           420                    425                    430
    Val Leu Leu
              435
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<210> 3945
<211> 696
<212> DNA
<213> Homo sapiens
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<400> 3945
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120
cgggcgcgcc cagcagtagc accgcccgcg cccgcccctg gacacttgta agtttcgatt
180
tccgatttcc gcggaaccga gtcccgcgcc gcggcagagc cagcacagcc agcgcgccat
240
ggcggacccg gaggtgtgct gcttcatcac caaaatcctg tgcgcccacg ggggccgcat
300
ggccctggac gcgctgctcc aggagatcgc gctgtctgag ccgcagctct gtgaggtgct
360
gcaggtggcc gggcccgacc gctttgtggt gttggagacc ggcggcgagg ccgggatcac
420
ccgatcggtg gtggccacca ctcgagcccg ggtctgccgt cgcaagtact gccagagacc
480
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ctgcgataac ctgcatctct gcaaactcaa cttgctgggc cggtgcaact attcgcagtc
540
cgagcggaat ttatgcaaat attctcatga ggttctctca gaagagaact tcaaagtcct
600
gaaaaatcac gaactctctg gactgaacaa agaggaatta gcagtgctcc tcctccaaag
660
tgatcctttt tttatgcccg agccctatgc agtctc
696

<210> 3946
<211> 165
<212> PRT
<213> Homo sapiens

<400> 3946
Met Gln Val Ile Ala Gly Ser Leu Ala Val Leu Ala Thr Ala Asp Pro
1   5   10   15
Gly Ser Ser Gly Gly His His Arg Ser Gly Asp Pro Gly Leu Ala Ala
            20   25   30
Gly Leu Gln His His Lys Ala Val Gly Pro Gly His Leu Gln His Leu
        35   40   45
Thr Glu Leu Arg Leu Arg Gln Arg Asp Leu Leu Glu Gln Arg Val Gln
    50   55   60
Gly His Ala Ala Pro Val Gly Ala Gln Asp Phe Gly Asp Glu Ala Ala
65   70   75   80
His Leu Arg Val Arg His Gly Ala Leu Ala Val Leu Ala Leu Pro Arg
                85   90   95
Arg Gly Thr Arg Phe Arg Gly Asn Arg Lys Ser Lys Leu Thr Ser Val
            100   105   110
Gln Gly Arg Ala Arg Ala Val Leu Leu Leu Gly Ala Pro Gly Val Ser
        115   120   125
Glu Gly Ala Leu Ser Val Ala Val Ser Pro Ala Gln Arg Ser Thr Leu
    130   135   140
Gly Ser Gln Val Lys Arg Leu Asp Leu Thr Asp Arg Val Leu Val Ala
145   150   155   160
Gly Leu Gln Pro Ala
                165

<210> 3947
<211> 400
<212> DNA
<213> Homo sapiens

<400> 3947
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atcaccttcc tgcagcctgt ggtgaatgga gagctgacca tgctgggaga gatcacccac
120
ctgcagggca tcatcgacga cttggtggtg ctgacagcag aaccccacaa actgcctccc
180
gccagcgagc aggtaatcaa agacctaaag ggctcggact acagctggtc ctaccagacc
240
ccaccctcat cacccagcag ctccagctcc cggaagtcca gcatgtgcag tgcccccagc
300

agcagtagca gtgccaaggg tggcggaagc cccatggcct ggggggtgccc aaacatactc
360
acccagttcc acctgtcgct accgcagcct ggcgcagcca
400

<210> 3948
<211> 133
<212> PRT
<213> Homo sapiens

<400> 3948
Xaa Glu Lys Gln Ala Ile Leu Leu Ala Leu Ile Glu Glu Arg Gly Arg
 1   5   10   15
Phe Cys Thr Phe Ile Thr Phe Leu Gln Pro Val Val Asn Gly Glu Leu
            20   25   30
Thr Met Leu Gly Glu Ile Thr His Leu Gln Gly Ile Ile Asp Asp Leu
        35   40   45
Val Val Leu Thr Ala Glu Pro His Lys Leu Pro Pro Ala Ser Glu Gln
    50   55   60
Val Ile Lys Asp Leu Lys Gly Ser Asp Tyr Ser Trp Ser Tyr Gln Thr
65   70   75   80
Pro Pro Ser Ser Pro Ser Ser Ser Ser Ser Arg Lys Ser Ser Met Cys
                85   90   95
Ser Ala Pro Ser Ser Ser Ser Ser Ala Lys Gly Gly Gly Ser Pro Met
            100   105   110
Ala Trp Gly Cys Pro Asn Ile Leu Thr Gln Phe His Leu Ser Leu Pro
        115   120   125
Gln Pro Gly Ala Ala
        130

<210> 3949
<211> 1462
<212> DNA
<213> Homo sapiens

<400> 3949
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tacccagaga gcaagacaca ggtctgcatt gtgcagcaca gctaaagttc ctttagaaaa
120
ccaccatctt tctggctgca agagtcaggg gtcagaatgg ggggcagcca ccactgctga
180
aaagagttgg gggaggaacc cctgaaagga gagccagaaa tgggggagct ccaaactctt
240
tgtgtcagct ctgtccaaat ctctaactga cttgtgaact aaaaagaaag gtttctacca
300
tcagcagact gtcacccata gacatttaca cagtattttg gtttggagtt cttcctaata
360
gtcacttcac agaaaaatat ataggtgctg ttttgccctg gaagccagac agatcagaat
420
attgggtaag atagctgggt cagctgtcct tggatggatc ccaaacacta tgctcctttc
480
caggcctgag aatcgccgaa cactgtccaa cacaatgtga tcacccaaca tatcacatgc
540

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atcactgagc tgcaccaccc ttttcttcct cattgctttc aagagctcat acttatagtg
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ctccacttct tttgcggtgc tgacaagcac agcaacatcc tttggagaat agcccctatc
660
aaagaagcgc ctgcacgtgt ctgccacaca ggtcattatt tgctccacag tcaagtattt
720
cttaattcgt aaggttccct gaacaccctg ggaccattcg gcttcaggaa atacctcgag
780
gcacccagtg gggatattaa ttggaggatt ttctataatt agttgcattt ctttttgtaa
840
gtactcggct atttcatctg cattgcgaac tattctggtg agctcttctc ttggatattg
900
gtctgagaga ggagggaggc cactgtgacc caagtggctg gtctgaaagt aatccagaaa
960
gatccagaga actcctggac aatccttttc tctctgagtg atgcttttg ccttcccata
1020
ccagtcccca tcttcagtac ggaaattctg agcttcgtca atgacgatgt gttgaatgtg
1080
ttcaaatttt tctcttagga aagtttcccg ggtctctgct cggcagatat ttctatcact
1140
gataaagttc ctcagaggct ggttttcaca aacgtagaga attctgtgtg cctcacagtg
1200
aaacacattc ctgatcttct ccatgatttt catggccatg atgttcttcc ctgagccagg
1260
taagccgtgg acaaacaact ctctgttctt gcggaggctt ctggagaata tctcatactg
1320
ctgggctgtg agcagattta aaacctcaca gccgagctgg tcactcaaga gagacctgaa
1380
gccgagtaag acaatcacga gggactgcag cagggcttcc atgtgctggg tgcctgcaag
1440
gctataggac gcagggtaat cc
1462


<210> 3950
<211> 351
<212> PRT
<213> Homo sapiens


<400> 3950
Met Glu Ala Leu Leu Gln Ser Leu Val Ile Val Leu Leu Gly Phe Arg
1               5                   10                  15
Ser Leu Leu Ser Asp Gln Leu Gly Cys Glu Val Leu Asn Leu Leu Thr
            20                  25                  30
Ala Gln Gln Tyr Glu Ile Phe Ser Arg Ser Leu Arg Lys Asn Arg Glu
        35                  40                  45
Leu Phe Val His Gly Leu Pro Gly Ser Gly Lys Asn Ile Met Ala Met
    50                  55                  60
Lys Ile Met Glu Lys Ile Arg Asn Val Phe His Cys Glu Ala His Arg
65                  70                  75                  80
Ile Leu Tyr Val Cys Glu Asn Gln Pro Leu Arg Asn Phe Ile Ser Asp
                85                  90                  95
Arg Asn Ile Cys Arg Ala Glu Thr Arg Glu Thr Phe Leu Arg Glu Lys
            100                 105                 110
Phe Glu His Ile Gln His Ile Val Ile Asp Glu Ala Gln Asn Phe Arg
```

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                115                      120                      125
  Thr Glu Asp Gly Asp Trp Tyr Gly Lys Ala Lys Ser Ile Thr Gln Arg
           130                      135                      140
  Glu Lys Asp Cys Pro Gly Val Leu Trp Ile Phe Leu Asp Tyr Phe Gln
  145                      150                      155                      160
  Thr Ser His Leu Gly His Ser Gly Leu Pro Pro Leu Ser Asp Gln Tyr
                    165                      170                      175
  Pro Arg Glu Glu Leu Thr Arg Ile Val Arg Asn Ala Asp Glu Ile Ala
                    180                      185                      190
  Glu Tyr Leu Gln Lys Glu Met Gln Leu Ile Ile Glu Asn Pro Pro Ile
                    195                      200                      205
  Asn Ile Pro Thr Gly Cys Leu Glu Val Phe Pro Glu Ala Glu Trp Ser
           210                      215                      220
  Gln Gly Val Gln Gly Thr Leu Arg Ile Lys Lys Tyr Leu Thr Val Glu
  225                      230                      235                      240
  Gln Ile Met Thr Cys Val Ala Asp Thr Cys Arg Arg Phe Phe Asp Arg
                    245                      250                      255
  Gly Tyr Ser Pro Lys Asp Val Ala Val Leu Val Ser Thr Ala Lys Glu
                    260                      265                      270
  Val Glu His Tyr Lys Tyr Glu Leu Leu Lys Ala Met Arg Lys Lys Arg
           275                      280                      285
  Val Val Gln Leu Ser Asp Ala Cys Asp Met Leu Gly Asp His Ile Val
           290                      295                      300
  Leu Asp Ser Val Arg Arg Phe Ser Gly Leu Glu Arg Ser Ile Val Phe
  305                      310                      315                      320
  Gly Ile His Pro Arg Thr Ala Asp Pro Ala Ile Leu Pro Asn Ile Leu
                    325                      330                      335
  Ile Cys Leu Ala Ser Arg Ala Lys Gln His Leu Tyr Ile Phe Leu
                    340                      345                      350
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<210> 3951
<211> 1012
<212> DNA
<213> Homo sapiens

<400> 3951

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120
gtccaggagt tccaggttcc ggattatgtt ccatggcagc agtccaagca ggaaaccaag
180
ccatctactc tgcctccagt ccaacaagcc aacagccttc atacaagcaa aatgaagact
240
ttgactaggg tccaaccagt gtttcacttc aagcccacta cggtggtgac aagctgccag
300
ccgaagaatc caagagaact acatagaagg cggaagttgg accctgggaa gatgcatgcc
360
aaaatctggt taatgaagac ctcgctcagg agcgggaggg ccgctctgcg agagctccga
420
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480
gagaacagca cgaccctgca cgtgcgggcc ctgctgcagc agcaggacac cctggcgacc
540
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atcatcgaca tcttggagta ctcaaacaag aagaggctgc agcaattgaa atctgagctt
600
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660
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900
gcgcagaaag gtcctgggaa tccttgtccg acaagattca gaagaagaag aaaaaaattc
960
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1012

<210> 3952
<211> 188
<212> PRT
<213> Homo sapiens

<400> 3952
Met Lys Thr Leu Thr Arg Val Gln Pro Val Phe His Phe Lys Pro Thr
 1   5   10   15
Thr Val Val Thr Ser Cys Gln Pro Lys Asn Pro Arg Glu Leu His Arg
                20   25   30
Arg Arg Lys Leu Asp Pro Gly Lys Met His Ala Lys Ile Trp Leu Met
            35   40   45
Lys Thr Ser Leu Arg Ser Gly Arg Ala Ala Leu Arg Glu Leu Arg Ser
        50   55   60
Arg Glu Asn Phe Leu Ser Lys Leu Asn Arg Glu Leu Ile Glu Thr Ile
65   70   75   80
Gln Glu Met Glu Asn Ser Thr Thr Leu His Val Arg Ala Leu Leu Gln
                85   90   95
Gln Gln Asp Thr Leu Ala Thr Ile Ile Asp Ile Leu Glu Tyr Ser Asn
            100   105   110
Lys Lys Arg Leu Gln Gln Leu Lys Ser Glu Leu Gln Glu Trp Glu Glu
        115   120   125
Lys Lys Lys Cys Lys Met Ser Tyr Leu Glu Gln Gln Ala Glu Gln Leu
        130   135   140
Asn Ala Lys Ile Glu Lys Thr Gln Glu Glu Val Asn Phe Leu Ser Thr
145   150   155   160
Tyr Met Asp His Glu Tyr Ser Ile Lys Ser Val Gln Ile Ser Thr Leu
                165   170   175
Met Arg His Cys Ser Arg Leu Arg Thr Ala Ser Arg
            180   185

<210> 3953
<211> 2900
<212> DNA
<213> Homo sapiens

<400> 3953

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gacaagctca ggtgcttgtt ttaaggaaag gggctactag agtcttacca acagcgagcc
180
caggtgggag atgaaacagg tactccccaa aataggtcat ccgagggagg aaaactgatg
240
gagagcacaa tgtgctctga gcgtttttaa tgtttttaag cttttaaatg atttcttcaa
300
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360
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420
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540
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660
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720
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780
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1140
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1200
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1260
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1320
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1380
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1500
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1620
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1740
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1800
tacccagaaa tggtgactgg atttttcttc atcctgatga ccgtactgtg gtttacccgg
1860
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gccacagtct ctgtcttcct tggcttcctc ctcttcctca ttccagcgaa gaagccctgc
1980
tttgggaaaa agaatgatgg agagaaccag gagcactcac tggggaccga gcccatcatc
2040
acgtggaagg acttccagaa gaccatgccc tgggagattg tcattctggt tgggggaggc
2100
tatgctctgg cttctggtag caagagctct ggcctctcta catggattgg gaaccagatg
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2280
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2340
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2460
gtgatagtaa tggtggccat caacacctgg ggagttagcc tcttccacct ggacacttac
2520
ccagcatggg cgagggtcag caacatcact gatcaagcct aacgccaagt gtacaaactg
2580
gcccaaccac aggagctgcc agtatccagc agtatctgga ccacaggcaa agaaaaccac
2640
taggaccacc aggagcacac aaccccagac ccacgccgga gggcatccct ccaccagaag
2700
attccgccac ctcaagtgaa ctgcaggaat cctccaacaa ccacaaacac atcgttcgct
2760
gttagtgtct tcttcctgcc ctcagcacca cagctcaaga aaacctaaag tttcaataca
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2880
aagaaaaaaa aaaaaaaaa
2900

<210> 3954
<211> 627
<212> PRT
<213> Homo sapiens

<400> 3954
Met Gly Leu Leu Gln Gly Leu Leu Arg Val Arg Lys Leu Leu Leu Val
1   5   10   15
Val Cys Val Pro Leu Leu Leu Leu Pro Leu Pro Val Leu His Pro Ser

3113

```
                    20                    25                    30
Ser Glu Ala Ser Cys Ala Tyr Val Leu Ile Val Thr Ala Val Tyr Trp
            35                    40                    45
Val Ser Glu Ala Val Pro Leu Gly Ala Ala Ala Leu Val Pro Ala Phe
            50                    55                    60
Leu Tyr Pro Phe Phe Gly Val Leu Arg Ser Asn Glu Val Ala Ala Glu
65                      70                    75                    80
Tyr Phe Lys Asn Thr Thr Leu Leu Leu Val Gly Val Ile Cys Val Ala
                85                    90                    95
Ala Ala Val Glu Lys Trp Asn Leu His Lys Arg Ile Ala Leu Arg Met
            100                   105                   110
Val Leu Met Ala Gly Ala Lys Pro Gly Met Leu Leu Leu Cys Phe Met
            115                   120                   125
Cys Cys Thr Thr Leu Leu Ser Met Trp Leu Ser Asn Thr Ser Thr Thr
            130                   135                   140
Ala Met Val Met Pro Ile Val Glu Ala Val Leu Gln Glu Leu Val Ser
145                   150                   155                   160
Ala Glu Asp Glu Gln Leu Val Ala Gly Asn Ser Asn Thr Glu Glu Ala
                165                   170                   175
Glu Pro Ile Ser Leu Asp Val Lys Asn Ser Gln Pro Ser Leu Glu Leu
            180                   185                   190
Ile Phe Val Asn Glu Asp Arg Ser Asn Ala Asp Leu Thr Thr Leu Met
            195                   200                   205
His Asn Glu Asn Leu Asn Gly Val Pro Ser Ile Thr Asn Pro Ile Lys
    210                   215                   220
Thr Ala Asn Gln His Gln Gly Lys Lys Gln His Pro Ser Gln Glu Lys
225                   230                   235                   240
Pro Gln Val Leu Thr Pro Ser Pro Arg Lys Gln Lys Leu Asn Arg Lys
                245                   250                   255
Tyr Arg Ser His His Asp Gln Met Ile Cys Lys Cys Leu Ser Leu Ser
                260                   265                   270
Ile Ser Tyr Ser Ala Thr Ile Gly Gly Leu Thr Thr Ile Ile Gly Thr
            275                   280                   285
Ser Thr Ser Leu Ile Phe Leu Glu His Phe Asn Asn Gln Tyr Pro Ala
    290                   295                   300
Ala Glu Val Val Asn Phe Gly Thr Trp Phe Leu Phe Ser Phe Pro Ile
305                   310                   315                   320
Ser Leu Ile Met Leu Val Val Ser Trp Phe Trp Met His Trp Leu Phe
                325                   330                   335
Leu Gly Cys Asn Phe Lys Glu Thr Cys Ser Leu Ser Lys Lys Lys Lys
            340                   345                   350
Thr Lys Arg Glu Gln Leu Ser Glu Lys Arg Ile Gln Glu Glu Tyr Glu
    355                   360                   365
Lys Leu Gly Asp Ile Ser Tyr Pro Glu Met Val Thr Gly Phe Phe Phe
    370                   375                   380
Ile Leu Met Thr Val Leu Trp Phe Thr Arg Glu Pro Gly Phe Val Pro
385                   390                   395                   400
Gly Trp Asp Ser Phe Phe Glu Lys Lys Gly Tyr Arg Thr Asp Ala Thr
                405                   410                   415
Val Ser Val Phe Leu Gly Phe Leu Leu Phe Leu Ile Pro Ala Lys Lys
            420                   425                   430
Pro Cys Phe Gly Lys Lys Asn Asp Gly Glu Asn Gln Glu His Ser Leu
    435                   440                   445
Gly Thr Glu Pro Ile Ile Thr Trp Lys Asp Phe Gln Lys Thr Met Pro
```

```
            450                    455                    460
Trp Glu Ile Val Ile Leu Val Gly Gly Gly Tyr Ala Leu Ala Ser Gly
465                    470                    475                    480
Ser Lys Ser Ser Gly Leu Ser Thr Trp Ile Gly Asn Gln Met Leu Ser
                485                    490                    495
Leu Ser Ser Leu Pro Pro Trp Ala Val Thr Leu Leu Ala Cys Ile Leu
            500                    505                    510
Val Ser Ile Val Thr Glu Phe Val Ser Asn Pro Ala Thr Ile Thr Ile
            515                    520                    525
Phe Leu Pro Ile Leu Cys Ser Leu Ser Glu Thr Met His Ile Asn Pro
        530                    535                    540
Leu Tyr Thr Leu Ile Pro Val Thr Met Cys Ile Ser Phe Ala Val Met
545                    550                    555                    560
Leu Pro Val Gly Asn Pro Pro Asn Ala Ile Val Phe Ser Tyr Gly His
                565                    570                    575
Cys Gln Ile Lys Asp Met Val Lys Ala Gly Leu Gly Val Asn Val Ile
            580                    585                    590
Gly Leu Val Ile Val Met Val Ala Ile Asn Thr Trp Gly Val Ser Leu
        595                    600                    605
Phe His Leu Asp Thr Tyr Pro Ala Trp Ala Arg Val Ser Asn Ile Thr
        610                    615                    620
Asp Gln Ala
625


<210> 3955
<211> 522
<212> DNA
<213> Homo sapiens

<400> 3955
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gaagcttcaa aatcacttcg acagaagcca ggagacagta ccatgacgta cctgaacaaa
120
ggccagttct atcccatcac cttgaaggag gtgagcagca gtgaaaatcc atcatcccat
180
agcaaagttc gaagtgtgat catggtggtt tttgctgaag acaaaagcag agaagatcag
240
ttaaggcatt ggaagtactg gcactcccgg cagcacaccg ctaaacaaag atgcattgac
300
atagctgact ataaagaaag cttcaacact atcagtaaca tcgaggagat tgcgtataac
360
gccatttcct tcacatggga catcaacgat gaagcaaagg ttttcatctc tgtgaactgc
420
ttaagcacag atttctcttc ccagaaggga gtgaaggggt tgcctcttaa cattcaagtt
480
gatacctata gttacaacaa ccgcagcaac aagcctgtgc ac
522


<210> 3956
<211> 174
<212> PRT
<213> Homo sapiens
```

<400> 3956
Xaa Asn Ser Glu Asp Tyr Val Phe Asp Ser Val Ser Gly Asn Asn Phe
 1   5   10   15
Glu Tyr Thr Leu Glu Ala Ser Lys Ser Leu Arg Gln Lys Pro Gly Asp
             20   25   30
Ser Thr Met Thr Tyr Leu Asn Lys Gly Gln Phe Tyr Pro Ile Thr Leu
             35   40   45
Lys Glu Val Ser Ser Ser Glu Asn Pro Ser Ser His Ser Lys Val Arg
     50   55   60
Ser Val Ile Met Val Val Phe Ala Glu Asp Lys Ser Arg Glu Asp Gln
65   70   75   80
Leu Arg His Trp Lys Tyr Trp His Ser Arg Gln His Thr Ala Lys Gln
                 85   90   95
Arg Cys Ile Asp Ile Ala Asp Tyr Lys Glu Ser Phe Asn Thr Ile Ser
             100   105   110
Asn Ile Glu Glu Ile Ala Tyr Asn Ala Ile Ser Phe Thr Trp Asp Ile
         115   120   125
Asn Asp Glu Ala Lys Val Phe Ile Ser Val Asn Cys Leu Ser Thr Asp
         130   135   140
Phe Ser Ser Gln Lys Gly Val Lys Gly Leu Pro Leu Asn Ile Gln Val
145   150   155   160
Asp Thr Tyr Ser Tyr Asn Asn Arg Ser Asn Lys Pro Val His
                 165   170

<210> 3957
<211> 3891
<212> DNA
<213> Homo sapiens

<400> 3957
nnctgcaggg aagccaatga tgccctcaat gcgtatgtgt gcaaaggcct cccccagcat
60
gaagaaatct gcctgggcct gtttactctc atcctcactg aacctgccca agcccagaag
120
tgttaccggg acttagctct ggtgagtcgt gatggcatga atattgtcct gaataaaatc
180
aaccagatac ttatggagaa gtacctgaag ctgcaggata cctgccgtac tcagttggtg
240
tggttggtac gggaactggt gaagagtggg gttctgggag ccgatggtgt ttgtatgacg
300
tttatgaagc agattgcagg tggagatgtt acagccaaaa atatctggtt ggcagaaagt
360
gttctggata tcctgacaga gcaaagggag tgggtcctga gagcagcat cctcattgcc
420
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480
gccctgcgac agaaggaagt agacttctgc atctcactgc ttcgggaacg gttcatggaa
540
tgtctgatga ttggtcggga tctcgtaaga ctacttcaga atgttgctag gataccagaa
600
tttgaactgc tttggaaaga tattatccat aatcctcagg ccttgagtcc tcagttcaca
660
ggtatcctac agcttcttca gtcaagaaca tcccgaaaat tcctagcatg tcgtctaacc
720

ccggacatgg agactaaact cctcttcatg acatcccggg tgcgatttgg tcaacaaaag
780
cgataccaag attggttcca gcgccagtac ctgtcaactc cagatagtca gtctctgcgc
840
tgtgacctca ttcgctacat ctgtggggta gtccaccctt ctaatgaagt actgagttca
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gatatcttgc cccggtgggc catcattggt tggctcctga caacgtgcac gtcaaatgtc
960
gctgcctcca atgccaagct ggctttgttt tatgactggc tgttctttag tccagacaag
1020
gatagcatta tgaacataga accagccatc ctggtcatgc accactccat gaagccccac
1080
ccagccatca ctgccacact cctggacttc atgtgccgca tcattcccaa cttctatcca
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1200
cgggtcttgg cgtgtaaaaa gtattggctc tacctcagac tgctgggcat atgtcttctt
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1320
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1380
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1440
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1500
tgacgatgaa gaggatctca acagcaaagg aaagaagagg gagtttcgct tccaccctat
1560
caaggagaca gttgtggagg agccagttga tatcacccct taccttgacc agttggatga
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1740
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1800
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1920
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1980
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2100
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2160
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2220
ctgccacgtg atgatgggta acctggttat gtttcgaaaa gactcagttc tcaacatact
2280
cattcagagc ctagactggg agacctttga gcagtattgt gcctggcagc tctttctggc
2340

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ccacaatatt cccctggaga ccataatccc catcctgcag cacctcaaat acaaggagca
2400
cccagaggcc ctgtcctgcc tactgcttca actccgaaga gaaaagccca gcgaggagat
2460
ggtgaagatg gtgctgagcc ggccctgcca tcctgacgac cagttcacca ccagcatcct
2520
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2640
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2700
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2760
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2820
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2880
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3000
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3120
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3180
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3240
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3300
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3360
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3420
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3480
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3660
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3720
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3780
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3840
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3891
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<210> 3958

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<211> 440
<212> PRT
<213> Homo sapiens

<400> 3958
Xaa Cys Arg Glu Ala Asn Asp Ala Leu Asn Ala Tyr Val Cys Lys Gly
 1               5                  10                  15
Leu Pro Gln His Glu Glu Ile Cys Leu Gly Leu Phe Thr Leu Ile Leu
             20                  25                  30
Thr Glu Pro Ala Gln Ala Gln Lys Cys Tyr Arg Asp Leu Ala Leu Val
             35                  40                  45
Ser Arg Asp Gly Met Asn Ile Val Leu Asn Lys Ile Asn Gln Ile Leu
         50                  55                  60
Met Glu Lys Tyr Leu Lys Leu Gln Asp Thr Cys Arg Thr Gln Leu Val
65                  70                  75                  80
Trp Leu Val Arg Glu Leu Val Lys Ser Gly Val Leu Gly Ala Asp Gly
                 85                  90                  95
Val Cys Met Thr Phe Met Lys Gln Ile Ala Gly Gly Asp Val Thr Ala
             100                 105                 110
Lys Asn Ile Trp Leu Ala Glu Ser Val Leu Asp Ile Leu Thr Glu Gln
         115                 120                 125
Arg Glu Trp Val Leu Lys Ser Ser Ile Leu Ile Ala Met Ala Val Tyr
     130                 135                 140
Thr Tyr Leu Arg Leu Ile Val Asp His His Gly Thr Ala Gln Leu Gln
145                 150                 155                 160
Ala Leu Arg Gln Lys Glu Val Asp Phe Cys Ile Ser Leu Leu Arg Glu
                 165                 170                 175
Arg Phe Met Glu Cys Leu Met Ile Gly Arg Asp Leu Val Arg Leu Leu
             180                 185                 190
Gln Asn Val Ala Arg Ile Pro Glu Phe Glu Leu Leu Trp Lys Asp Ile
         195                 200                 205
Ile His Asn Pro Gln Ala Leu Ser Pro Gln Phe Thr Gly Ile Leu Gln
     210                 215                 220
Leu Leu Gln Ser Arg Thr Ser Arg Lys Phe Leu Ala Cys Arg Leu Thr
225                 230                 235                 240
Pro Asp Met Glu Thr Lys Leu Leu Phe Met Thr Ser Arg Val Arg Phe
                 245                 250                 255
Gly Gln Gln Lys Arg Tyr Gln Asp Trp Phe Gln Arg Gln Tyr Leu Ser
             260                 265                 270
Thr Pro Asp Ser Gln Ser Leu Arg Cys Asp Leu Ile Arg Tyr Ile Cys
     275                 280                 285
Gly Val Val His Pro Ser Asn Glu Val Leu Ser Ser Asp Ile Leu Pro
     290                 295                 300
Arg Trp Ala Ile Ile Gly Trp Leu Leu Thr Thr Cys Thr Ser Asn Val
305                 310                 315                 320
Ala Ala Ser Asn Ala Lys Leu Ala Leu Phe Tyr Asp Trp Leu Phe Phe
             325                 330                 335
Ser Pro Asp Lys Asp Ser Ile Met Asn Ile Glu Pro Ala Ile Leu Val
             340                 345                 350
Met His His Ser Met Lys Pro His Pro Ala Ile Thr Ala Thr Leu Leu
             355                 360                 365
Asp Phe Met Cys Arg Ile Ile Pro Asn Phe Tyr Pro Pro Leu Glu Gly
370                 375                 380
His Val Arg Gln Gly Val Phe Ser Ser Leu Asn His Ile Val Glu Lys
```

```
     385                   390                   395                   400
Arg Val Leu Ala Cys Lys Lys Tyr Trp Leu Tyr Leu Arg Leu Leu Gly
                        405                   410                   415
Ile Cys Leu Leu Xaa Leu Leu Glu Glu Phe Leu Ser Cys His Arg Ile
                        420                   425                   430
Thr Lys Thr Pro Ser Ser Pro Val
                        435                   440
```

<210> 3959
<211> 752
<212> DNA
<213> Homo sapiens

<400> 3959
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cccagcagtt cacaggaaga gagcttcggt gggtcagatg gtcaacagta tcaaaatatt
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caacagagac cactctgtgg gttttcaaat gataggatac acatcagcag tcctctggga
120
agaaaatgtc ttctcccata tacagagacc ctcataccat ttggggacat gccccaaaa
180
ggacgggctt tggcgtgaaa gaacatttct accccggctg tttgtgtgct gtcatcccag
240
gtcagggctg aataatgacc acttggtaga cctggtgctc acagagcctt catttggttg
300
tataaggggc caaattcacc tctcgatttc cttttttcct ttcagaatgc agtttccaag
360
tacggctctc agttccaagg caattcccag cacgacgccc tggaattcct gctctggttg
420
ctggatcgtg tacatgagga cctggagggt tcatcccgat gggccaggtg tcggagaagc
480
ttccgcctga agccactaaa acctctgaga actgcctgtc accatcagct cagcttcctc
540
taggtcaaag cttgtgcaaa ccactttcaa gcacaatata gatcttcgtt gattgtcccc
600
actgcttgaa cagagcacac tttgtccttc ctgggtgtgt cctactatcg cttgcgcgac
660
ggggtctgag tgtacttggt ttcctctaaa gcaacgttct gcggttggct gcgtgcgatc
720
tcagaaatgg acctgggaga tttgaaagag ag
752
```

<210> 3960
<211> 94
<212> PRT
<213> Homo sapiens

<400> 3960
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Pro Leu Gly Arg Pro Gly Ala His Arg Ala Phe Ile Trp Leu Tyr Lys
  1               5                  10                  15
Gly Pro Asn Ser Pro Leu Asp Phe Leu Phe Ser Phe Gln Asn Ala Val
                 20                  25                  30
Ser Lys Tyr Gly Ser Gln Phe Gln Gly Asn Ser Gln His Asp Ala Leu
         35                  40                  45
Glu Phe Leu Leu Trp Leu Leu Asp Arg Val His Glu Asp Leu Glu Gly
```

3120

```
          50                   55                   60
Ser Ser Arg Trp Ala Arg Cys Arg Arg Ser Phe Arg Leu Lys Pro Leu
65                   70                   75                   80
Lys Pro Leu Arg Thr Ala Cys His His Gln Leu Ser Phe Leu
                    85                   90
```

<210> 3961
<211> 2505
<212> DNA
<213> Homo sapiens

<400> 3961
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nngcggaggc ggcgttgccg ggctctccgg aaggagacgt ggcggcggtt gggccggtga
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tacccgggcg ctttatagtc ccgccgcctc ctcctccacc tcctcctcct cctcctctcc
120
tcctggggca gaggaggttg tggcggtggc tggagaaagc ggcggcggag gatggaggaa
180
ggaggcggcg gcgtacggag tctggtcccg ggcgggccgg tgttactggt cctctgcggc
240
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300
cgagtcaact ggcccggcac cgagttctct ctgcccacaa ctggagtttt atataaagaa
360
gataattatg tcatcatgac aactgcacat aaagaaaaat ataaatgcat acttccccтт
420
gtgacaagtg gggatgagga agaagaaaag gattataaag ccctaatcc aagagagctt
480
ttggagccac tatttaaaca aagcagttgt cctacagaa ttgagtctta ttggacttac
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600
ataaatattc acgagtacta ccttgggaat atgttggcca agaaccttct atttgaaaaa
660
gaacgagaag cagaagaaaa ggaaaaatca aatgagattc ccactaaaaa tatcgaaggt
720
cagatgacac catactatcc tgtgggaatg ggaaatggta caccttgtag tttgaaacag
780
aaccggccca gatcaagtac tgtgatgtac atatgtcatc ctgaatctaa gcatgaaatt
840
ctttcagtag ctgaagttac aacttgtgaa tatgaagttg tcattttgac accactcttg
900
tgcagtcatc ctaaatatag gttcagagca tctcctgtga atgacatatt ttgtcaatca
960
ctgccaggat ctccatttaa gcccctcacc ctgaggcagc tggagcagca ggaagaaata
1020
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1140
acccacatat ccaaattgac agatgaccaa ctcataaaag agtttcttag tggttcttac
1200
tgctttcgtg ggggtgtcgg ttggtggaaa tatgaattct gctatggcaa acatgtacat
1260
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caataccatg aggacaagga tagtgggaaa acctctgtgg ttgtcgggac atggaaccaa
1320
gaagagcata ttgaatgggc taagaagaat actgctagag cttatcatct tcaagacgat
1380
ggtacccaga cagtcaggat ggtgtcacat ttttatggaa atggagatat ttgtgatata
1440
actgacaaac caagacaggt gactgtaaaa ctaaagtgca aagaatcaga ttcacctcat
1500
gctgttactg tatatatgct agagcctcac tcctgtcaat atattcttgg ggttgaatct
1560
ccagtgatct gtaaaatctt agatacagca gatgaaaatg gacttctttc tctccccaac
1620
taaaggatat taaagttagg ggaaagaaaa gatcattgaa agtcatgata atttctgtcc
1680
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1800
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1920
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1980
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2040
taaatgagag accatgtaaa atatgtaaat tctagtacct gaaatccttt caacagattt
2100
ttatatagca actgctctct gcaagtagtt aaactagaaa ctgggcacat ggtagaggct
2160
cacatgggag ttgtcctcac ccttgttaat ctcaagaaac tcttatttat aataggttgc
2220
ttctctctca gaactttat ctattacttt tttcttctta tgagtatgtt tactctcaga
2280
gtatctatct gatgtagaca gttggtgatg cttctgagac tcagaatggt ttactctaac
2340
aaaacactgt gctgtctatc ccttgtactt gcctactgta atatggattt cacttctgaa
2400
cagtttacag cacaatattt attttaaagt gaataaaatg tccacaagca gtgttgtcat
2460
gtagtcaatg gcaaaaaaaa aaaaaaaaaa aaaaaaaaa aaaaa
2505

<210> 3962
<211> 306
<212> PRT
<213> Homo sapiens

<400> 3962
Thr Lys Asn Ile Glu Gly Gln Met Thr Pro Tyr Tyr Pro Val Gly Met
1   5   10   15
Gly Asn Gly Thr Pro Cys Ser Leu Lys Gln Asn Arg Pro Arg Ser Ser
            20   25   30
Thr Val Met Tyr Ile Cys His Pro Glu Ser Lys His Glu Ile Leu Ser

3122

```
               35                    40                    45
Val Ala Glu Val Thr Thr Cys Glu Tyr Glu Val Val Ile Leu Thr Pro
      50                    55                    60
Leu Leu Cys Ser His Pro Lys Tyr Arg Phe Arg Ala Ser Pro Val Asn
65                    70                    75                    80
Asp Ile Phe Cys Gln Ser Leu Pro Gly Ser Pro Phe Lys Pro Leu Thr
              85                    90                    95
Leu Arg Gln Leu Glu Gln Gln Glu Glu Ile Leu Arg Val Pro Phe Arg
                100                   105                   110
Arg Asn Lys Glu Glu Asp Leu Gln Ser Thr Lys Glu Glu Arg Phe Pro
                115                   120                   125
Ala Ile His Lys Ser Ile Ala Ile Gly Ser Gln Pro Val Leu Thr Val
          130                   135                   140
Gly Thr Thr His Ile Ser Lys Leu Thr Asp Asp Gln Leu Ile Lys Glu
145                   150                   155                   160
Phe Leu Ser Gly Ser Tyr Cys Phe Arg Gly Gly Val Gly Trp Trp Lys
              165                   170                   175
Tyr Glu Phe Cys Tyr Gly Lys His Val His Gln Tyr His Glu Asp Lys
              180                   185                   190
Asp Ser Gly Lys Thr Ser Val Val Val Gly Thr Trp Asn Gln Glu Glu
          195                   200                   205
His Ile Glu Trp Ala Lys Lys Asn Thr Ala Arg Ala Tyr His Leu Gln
      210                   215                   220
Asp Asp Gly Thr Gln Thr Val Arg Met Val Ser His Phe Tyr Gly Asn
225                   230                   235                   240
Gly Asp Ile Cys Asp Ile Thr Asp Lys Pro Arg Gln Val Thr Val Lys
              245                   250                   255
Leu Lys Cys Lys Glu Ser Asp Ser Pro His Ala Val Thr Val Tyr Met
              260                   265                   270
Leu Glu Pro His Ser Cys Gln Tyr Ile Leu Gly Val Glu Ser Pro Val
          275                   280                   285
Ile Cys Lys Ile Leu Asp Thr Ala Asp Glu Asn Gly Leu Leu Ser Leu
      290                   295                   300
Pro Asn
305

<210> 3963
<211> 1513
<212> DNA
<213> Homo sapiens

<400> 3963
cttaaggtgt attaatccgt cactataccc agataaacag agatggccat ggcatctttt
60
ctactctttt attttacaaa gggaatgatg aaaggtggaa acaaacaaga agaagcgtgg
120
ataaatccat ttgttaaaca gttttcaaac atcagttttt cgagagactc accagaggaa
180
aatgtacaaa gcaataagat ggacctttct ggaggaatgt tacaagacaa acgaatggag
240
atagataaac atagcctaaa tattggtgat tacaatcgaa cggtcgggaa aggccctggt
300
tctcggcctc agatttccaa agagtcttcc atggagcgca atccttattt tgataagaat
360
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ggcaatccca gtatgtttgg tgttggaaac acagcagcac aaccccgggg catgcagcag
420
cctccagcac aacctcttag ttcatctcag cctaatctcc gtgctcaagt gcctcctcca
480
ttactctccc ctcaggttcc agtttcattg ctgaagtatg caccaaacaa cggtggcctg
540
aatccactct ttggccctca acaggtagcc atgctgaacc agctatccca gctaaaccag
600
ctttctcaga tctcccagtt acagcgattg ttagcgcagc agcaaagggc gcagagtcag
660
agaagcgtgc cttctgggaa ccggccgcag caagaccagc agggtcgacc tcttagtgtg
720
cagcagcaaa tgatgcaaca atctcgtcaa cttgatccaa acctgttggt gaagcagcag
780
actccaccat ctcagcagca gccactccat cagccagcca tgaagtcttt ccttgacaat
840
gtcatgcccc acactacacc tgagctgcaa aaagggccat caccaataaa tgctttcagc
900
aacttcccta taggcttgaa ctcaaacttg aatgtaaata tggatatgaa cagtattaaa
960
gagccacagt caagactaag gaagtggacg acagtggaca gcatttctgt gaacacatct
1020
ttggatcaaa actccagcaa acatggtgct atttcaagtg gtttcaggct ggaagagtct
1080
ccatttgttc cctatgactt tatgaacagc agtacttcac cagccagtcc tccaggttca
1140
ataggagatg gctggccacg tgccaaatcg cctaacggct ctagcagtgt taattggcca
1200
ccagaatttc gtcctggtga gccatggaaa ggttatccaa acattgaccc tgaaactgac
1260
ccttacgtca ctcctggcag tgtcataaac aatcttccaa ttaatactgt gcgggaagtt
1320
gaccacctca gggacaggaa cagtggtacg taggggggtgc aaatcaattt ctgagtgaca
1380
cttaacacag tttaagaatg gctcatgtag taaccagcta ctctgggcga ctgagcccag
1440
ggtactctgg gatcacttga gcccaggagc ttgagcaagc ctgggcaaca tagttgtggg
1500
accctgtctc ttt
1513

<210> 3964
<211> 436
<212> PRT
<213> Homo sapiens

<400> 3964
Met Ala Met Ala Ser Phe Leu Leu Phe Tyr Phe Thr Lys Gly Met Met
1   5   10   15
Lys Gly Gly Asn Lys Gln Glu Glu Ala Trp Ile Asn Pro Phe Val Lys
            20   25   30
Gln Phe Ser Asn Ile Ser Phe Ser Arg Asp Ser Pro Glu Glu Asn Val
        35   40   45
Gln Ser Asn Lys Met Asp Leu Ser Gly Gly Met Leu Gln Asp Lys Arg

3124

```
          50                      55                      60
Met Glu Ile Asp Lys His Ser Leu Asn Ile Gly Asp Tyr Asn Arg Thr
65                      70                      75                      80
Val Gly Lys Gly Pro Gly Ser Arg Pro Gln Ile Ser Lys Glu Ser Ser
                        85                      90                      95
Met Glu Arg Asn Pro Tyr Phe Asp Lys Asn Gly Asn Pro Ser Met Phe
                        100                     105                     110
Gly Val Gly Asn Thr Ala Ala Gln Pro Arg Gly Met Gln Gln Pro Pro
                        115                     120                     125
Ala Gln Pro Leu Ser Ser Ser Gln Pro Asn Leu Arg Ala Gln Val Pro
                        130                     135                     140
Pro Pro Leu Leu Ser Pro Gln Val Pro Val Ser Leu Leu Lys Tyr Ala
145                     150                     155                     160
Pro Asn Asn Gly Gly Leu Asn Pro Leu Phe Gly Pro Gln Gln Val Ala
                        165                     170                     175
Met Leu Asn Gln Leu Ser Gln Leu Asn Gln Leu Ser Gln Ile Ser Gln
                        180                     185                     190
Leu Gln Arg Leu Leu Ala Gln Gln Gln Arg Ala Gln Ser Gln Arg Ser
                        195                     200                     205
Val Pro Ser Gly Asn Arg Pro Gln Gln Asp Gln Gln Gly Arg Pro Leu
                        210                     215                     220
Ser Val Gln Gln Gln Met Met Gln Gln Ser Arg Gln Leu Asp Pro Asn
225                     230                     235                     240
Leu Leu Val Lys Gln Gln Thr Pro Pro Ser Gln Gln Gln Pro Leu His
                        245                     250                     255
Gln Pro Ala Met Lys Ser Phe Leu Asp Asn Val Met Pro His Thr Thr
                        260                     265                     270
Pro Glu Leu Gln Lys Gly Pro Ser Pro Ile Asn Ala Phe Ser Asn Phe
                        275                     280                     285
Pro Ile Gly Leu Asn Ser Asn Leu Asn Val Asn Met Asp Met Asn Ser
                        290                     295                     300
Ile Lys Glu Pro Gln Ser Arg Leu Arg Lys Trp Thr Thr Val Asp Ser
305                     310                     315                     320
Ile Ser Val Asn Thr Ser Leu Asp Gln Asn Ser Ser Lys His Gly Ala
                        325                     330                     335
Ile Ser Ser Gly Phe Arg Leu Glu Glu Ser Pro Phe Val Pro Tyr Asp
                        340                     345                     350
Phe Met Asn Ser Ser Thr Ser Pro Ala Ser Pro Pro Gly Ser Ile Gly
                        355                     360                     365
Asp Gly Trp Pro Arg Ala Lys Ser Pro Asn Gly Ser Ser Ser Val Asn
                        370                     375                     380
Trp Pro Pro Glu Phe Arg Pro Gly Glu Pro Trp Lys Gly Tyr Pro Asn
385                     390                     395                     400
Ile Asp Pro Glu Thr Asp Pro Tyr Val Thr Pro Gly Ser Val Ile Asn
                        405                     410                     415
Asn Leu Pro Ile Asn Thr Val Arg Glu Val Asp His Leu Arg Asp Arg
                        420                     425                     430
Asn Ser Gly Thr
                        435
```

```
<210> 3965
<211> 2850
<212> DNA
<213> Homo sapiens
```

<400> 3965

ngttgcgggg ccacccttcc cgctggtttc cctcgtggtg tgtaaaggca gagaggaaag
60

gcgaggggtg ttgacgccag gaaggttcca tcttggttaa gggcaggagt cccttacgga
120

cttgtctgag gaaagacagg aaagcgccag catctccacc ttccccggaa gcctcccttt
180

gccaggcaga aagggtttcc catggggccg cccctggcgc cgcgcccggc ccacgtaccc
240

ggggaggccg ggccccggag gacgagggaa agcaggccgg gcgccgtgag cttcgcggac
300

gtggccgtgt acttctctcc cgaggagtgg gaatgcctgc ggccagcgca gagggccctg
360

taccgggacg tgatgcggga gaccttcggc cacctgggcg cgctgggtga ggccgggccc
420

tccggccggg accccagtc cgtcggattt tcagttccca aaccgctttt atctcgtgg
480

gtggaaggag aagtggaggc gtggagcccg gaggcccagg atcccgacgg tgagagctct
540

gcagctttca gcaggggcca aggacaggaa gcaggatcca gggatgggaa tgaggagaag
600

gaaaggctga agaagtgtcc aaaacaaaaa gaggtggcgc atgaagtggc tgtcaaggag
660

tggtggccca gcgtcgcctg cccagagttc tgcaaccgta ggcagagccc catgaatccc
720

tggctcaagg acactctgac ccgaagactg ccccactctt gcccagactg tggccgcaac
780

ttcagctacc cttccctcct ggccagccac cagcgggtcc actccgggga gcggcccttc
840

tcctgcggcc agtgtcaggc gcgtttctcc cagcgcaggt acctgctcca gcatcagttc
900

atccacaccg gcgagaagcc ctacccctgc cccgactgcg ggcgccgctt ccgccagagg
960

ggttccctgg ctatccacag gcgggctcac accggggaga gccttacgc gtgctcagac
1020

tgcaagagtc gcttcactta cccctacctg ctggccatcc accagcgcaa gcacacgggc
1080

gagaagccct acagctgccc cgattgcagc ctccgtttcg cctacacctc cctgctggcc
1140

atccacaggc gcatacacac cggcgagaag ccctaccct gtcctgactg cggccgccgc
1200

ttcacctatt cttccctcct cctcagtcac cggcgcattc actccgacag ccggcccttc
1260

ccctgcgtgg agtgtgggaa aggcttcaag cgcaagaccg ccctggaagc ccatcggtgg
1320

atccaccgct cctgcagcga gaggcgcgcg tggcagcagg ccgtggtggg gcgttcagag
1380

cccatccctg ttttgggagg caaggatccc ccagttcact tccggcactt tccagatata
1440

tttcaagagt tctgtcaaca gaggcttcag gaccgcgggg tcccttcaaa tgccccgcca
1500

gtcccaggcc aatcaccgcg cagcttcttc cgggatcgtc gccaatcatc ggccgttgcg
1560

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tattgcgggc acagaggggt aagtgaagct tcgggccctt acatctttct tgaaggcaag
1620
aagcctctcc tctacttccc agacaccccg cctcccccac tagaaaaagc agccgaagcg
1680
gctttatttta agggcaagtg ggacgatgag gccagagaaa tggcgccgcc cccagccccg
1740
ctcctggcgc cgaggcccgg ggagacccgg cctggttgca ggaagcccgg gactgtgagc
1800
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1860
agggctctgt accgggacgt gatgcaggag acctacggcc acctgggcgc gctcggattc
1920
ccaggcccca aaccagccct catctcttgg atggaacagg agagtgaggc ttggagcccc
1980
gccgcccagg atcctgagaa gggggaaaga ctgggaggag ctcggagagg agatgtccca
2040
aacaggaagg aagaggaacc ggaggaagtc ccaagagcca aagggcctag aaaggctcct
2100
gtgaaggaga gtcctgaagt gctggtggaa cgcaaccctg acccagctat tagcgtggcc
2160
ccggcacggg cacagccacc caaaaatgct gcctgggacc cgaccacagg agcacagccc
2220
ccggcaccca tacccagcat ggatgctcag gccggccagc ggcgccacgt gtgcacggac
2280
tgcggccgcc gcttcaccta ccctcactg ctggtcagcc acaggcgcat gcactcgggg
2340
gagcggcctt tccctgcc cgagtgtggc atgcgcttca agaggaagtt cgcagtggaa
2400
gcgcaccagt ggatccaccg ctcctgctcc ggggggcggc ggggccggag gcctgggatc
2460
cgggctgtgc ctcgggcccc cgtccgaggt gaccgggacc cgcctgtgct cttccggcac
2520
tacccagaca tcttcgagga gtgcggctga gcggcaccgc aggctggagt tgagcctgac
2580
cttggcacga aggactgacg gatccctgag gtgggccact gagtcgggga ctccggaact
2640
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2700
agtgcctgta aagattcgaa tagattagac ttgccaccca tctccccagt cttttgttta
2760
acaaaaaaaa aaaaaaaaaa aaaaaaaag aagagagtga gaccctggac tcatttcaaa
2820
gtgttatctg aagatcaggt gcaacagaga
2850


<210> 3966
<211> 782
<212> PRT
<213> Homo sapiens

<400> 3966
Met Gly Pro Pro Leu Ala Pro Arg Pro Ala His Val Pro Gly Glu Ala
 1               5                  10                  15
Gly Pro Arg Arg Thr Arg Glu Ser Arg Pro Gly Ala Val Ser Phe Ala
```

3127

```
                    20                      25                      30
Asp Val Ala Val Tyr Phe Ser Pro Glu Glu Trp Glu Cys Leu Arg Pro
         35                      40                      45
Ala Gln Arg Ala Leu Tyr Arg Asp Val Met Arg Glu Thr Phe Gly His
    50                      55                      60
Leu Gly Ala Leu Gly Glu Ala Gly Pro Ser Gly Arg Asp Pro Gln Ser
65                      70                      75                      80
Val Gly Phe Ser Val Pro Lys Pro Ala Phe Ile Ser Trp Val Glu Gly
                85                      90                      95
Glu Val Glu Ala Trp Ser Pro Glu Ala Gln Asp Pro Asp Gly Glu Ser
                100                     105                     110
Ser Ala Ala Phe Ser Arg Gly Gln Gly Gln Glu Ala Gly Ser Arg Asp
         115                     120                     125
Gly Asn Glu Glu Lys Glu Arg Leu Lys Lys Cys Pro Lys Gln Lys Glu
    130                     135                     140
Val Ala His Glu Val Ala Val Lys Glu Trp Trp Pro Ser Val Ala Cys
145                     150                     155                     160
Pro Glu Phe Cys Asn Pro Arg Gln Ser Pro Met Asn Pro Trp Leu Lys
                165                     170                     175
Asp Thr Leu Thr Arg Arg Leu Pro His Ser Cys Pro Asp Cys Gly Arg
                180                     185                     190
Asn Phe Ser Tyr Pro Ser Leu Leu Ala Ser His Gln Arg Val His Ser
         195                     200                     205
Gly Glu Arg Pro Phe Ser Cys Gly Gln Cys Gln Ala Arg Phe Ser Gln
    210                     215                     220
Arg Arg Tyr Leu Leu Gln His Gln Phe Ile His Thr Gly Glu Lys Pro
225                     230                     235                     240
Tyr Pro Cys Pro Asp Cys Gly Arg Arg Phe Arg Gln Arg Gly Ser Leu
                245                     250                     255
Ala Ile His Arg Arg Ala His Thr Gly Glu Lys Pro Tyr Ala Cys Ser
                260                     265                     270
Asp Cys Lys Ser Arg Phe Thr Tyr Pro Tyr Leu Leu Ala Ile His Gln
         275                     280                     285
Arg Lys His Thr Gly Glu Lys Pro Tyr Ser Cys Pro Asp Cys Ser Leu
    290                     295                     300
Arg Phe Ala Tyr Thr Ser Leu Leu Ala Ile His Arg Arg Ile His Thr
305                     310                     315                     320
Gly Glu Lys Pro Tyr Pro Cys Pro Asp Cys Gly Arg Arg Phe Thr Tyr
                325                     330                     335
Ser Ser Leu Leu Leu Ser His Arg Arg Ile His Ser Asp Ser Arg Pro
         340                     345                     350
Phe Pro Cys Val Glu Cys Gly Lys Gly Phe Lys Arg Lys Thr Ala Leu
         355                     360                     365
Glu Ala His Arg Trp Ile His Arg Ser Cys Ser Glu Arg Arg Ala Trp
    370                     375                     380
Gln Gln Ala Val Val Gly Arg Ser Glu Pro Ile Pro Val Leu Gly Gly
385                     390                     395                     400
Lys Asp Pro Pro Val His Phe Arg His Phe Pro Asp Ile Phe Gln Glu
                405                     410                     415
Phe Cys Gln Gln Arg Leu Gln Asp Arg Gly Val Pro Ser Asn Ala Pro
         420                     425                     430
Pro Val Pro Gly Gln Ser Pro Arg Ser Phe Phe Arg Asp Arg Arg Gln
         435                     440                     445
Ser Ser Ala Val Ala Tyr Cys Gly His Arg Gly Val Ser Glu Ala Ser
```

3128

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            450                    455                     460
Gly Pro Tyr Ile Phe Leu Glu Gly Lys Lys Pro Leu Leu Tyr Phe Pro
465                     470                     475                     480
Asp Thr Pro Pro Pro Pro Leu Glu Lys Ala Ala Glu Ala Ala Leu Phe
                485                     490                     495
Lys Gly Lys Trp Asp Asp Glu Ala Arg Glu Met Ala Pro Pro Pro Ala
                500                     505                     510
Pro Leu Leu Ala Pro Arg Pro Gly Glu Thr Arg Pro Gly Cys Arg Lys
                515                     520                     525
Pro Gly Thr Val Ser Phe Ala Asp Val Ala Val Tyr Phe Ser Pro Glu
                530                     535                     540
Glu Trp Gly Cys Leu Arg Pro Ala Gln Arg Ala Leu Tyr Arg Asp Val
545                     550                     555                     560
Met Gln Glu Thr Tyr Gly His Leu Gly Ala Leu Gly Phe Pro Gly Pro
                565                     570                     575
Lys Pro Ala Leu Ile Ser Trp Met Glu Gln Glu Ser Glu Ala Trp Ser
                580                     585                     590
Pro Ala Ala Gln Asp Pro Glu Lys Gly Glu Arg Leu Gly Gly Ala Arg
                595                     600                     605
Arg Gly Asp Val Pro Asn Arg Lys Glu Glu Glu Pro Glu Glu Val Pro
                610                     615                     620
Arg Ala Lys Gly Pro Arg Lys Ala Pro Val Lys Glu Ser Pro Glu Val
625                     630                     635                     640
Leu Val Glu Arg Asn Pro Asp Pro Ala Ile Ser Val Ala Pro Ala Arg
                645                     650                     655
Ala Gln Pro Pro Lys Asn Ala Ala Trp Asp Pro Thr Thr Gly Ala Gln
                660                     665                     670
Pro Pro Ala Pro Ile Pro Ser Met Asp Ala Gln Ala Gly Gln Arg Arg
                675                     680                     685
His Val Cys Thr Asp Cys Gly Arg Arg Phe Thr Tyr Pro Ser Leu Leu
                690                     695                     700
Val Ser His Arg Arg Met His Ser Gly Glu Arg Pro Phe Pro Cys Pro
705                     710                     715                     720
Glu Cys Gly Met Arg Phe Lys Arg Lys Phe Ala Val Glu Ala His Gln
                725                     730                     735
Trp Ile His Arg Ser Cys Ser Gly Gly Arg Arg Gly Arg Arg Pro Gly
                740                     745                     750
Ile Arg Ala Val Pro Arg Ala Pro Val Arg Gly Asp Arg Asp Pro Pro
                755                     760                     765
Val Leu Phe Arg His Tyr Pro Asp Ile Phe Glu Glu Cys Gly
                770                     775                     780
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<210> 3967
<211> 892
<212> DNA
<213> Homo sapiens

<400> 3967
nacccggccc gaccccggcg cgcgcgcggc ggaggacgag gaagagttgt ggcgaggcag
60
atcctgcccc gtggccgcgg ccgtctcgta ggggacaccg tggtgtttaa ggatggccag
120
tactggatcc gaggccggac ctcagtggac atcatcaaga ctggaggcta caaggtcagc
180

gccctggagg tggagtggca cctgctggcc cacccagca tcacagatgt ggctgtgatt
240
ggagttccgg atatgacatg gggccagcgg gtcactgctg tggtgaccct ccgagaagga
300
cactcactgt cccacaggga gctcaaagag tgggccagaa atgtcctggc cccgtacgcg
360
gtgccctcgg agctggtgct ggtggaggag atcccgcgga accagatggg caagattgac
420
aagaaggcgc tcatcaggca cttccacccc tcatgacccg gcagactggg actgcgggtc
480
tggtggggag cagcagacgt cccccttcaca ccgagaacca cggggggcccg tccaagacct
540
ggcctccctt aaacctgaac cccccaaatc aggtcacgta gaatcaagaa ctgtttggga
600
tgaaatcacc atgtggggtc cccagcctcg ggccagttgt tgcagctcaa ggagaccgtc
660
cctggtgtca cctctgcctg gtcaccgccg acctcatctg tgcagcgcgg tgcagccagc
720
ccctggcccc acgtgctgag gcacctcccg ccccacagtg ccctgcagtt gccaggctct
780
ccagggcagg tcccagaggt ttcccacaaa aaacaaataa agactccact ggaggaaaca
840
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
892

<210> 3968
<211> 151
<212> PRT
<213> Homo sapiens

<400> 3968
Xaa Pro Ala Arg Pro Arg Arg Ala Arg Gly Gly Gly Arg Gly Arg Val
1   5   10   15
Val Ala Arg Gln Ile Leu Pro Arg Gly Arg Gly Arg Leu Val Gly Asp
            20   25   30
Thr Val Val Phe Lys Asp Gly Gln Tyr Trp Ile Arg Gly Arg Thr Ser
            35   40   45
Val Asp Ile Ile Lys Thr Gly Gly Tyr Lys Val Ser Ala Leu Glu Val
        50   55   60
Glu Trp His Leu Leu Ala His Pro Ser Ile Thr Asp Val Ala Val Ile
65   70   75   80
Gly Val Pro Asp Met Thr Trp Gly Gln Arg Val Thr Ala Val Val Thr
                85   90   95
Leu Arg Glu Gly His Ser Leu Ser His Arg Glu Leu Lys Glu Trp Ala
            100   105   110
Arg Asn Val Leu Ala Pro Tyr Ala Val Pro Ser Glu Leu Val Leu Val
            115   120   125
Glu Glu Ile Pro Arg Asn Gln Met Gly Lys Ile Asp Lys Lys Ala Leu
        130   135   140
Ile Arg His Phe His Pro Ser
145   150

<210> 3969
<211> 915

<212> DNA
<213> Homo sapiens

<400> 3969
ggcacctcgg gcaggacctc cctggtcgga agtggccgtg agcccaagcc gcggtcccgg
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gtgagtacgg ggcggggcgg aggcatgtgc gaggctctct gcctgtacgc tggaaagtgg
120
ggattgcaac tcggggaggg atggagcacg cgtcgtcgcc tgggaaacgg tcgacccgc
180
ggaaggcgag cgggtgggac ttccggagca gttaatggtg gggaaacttt ctagtggatg
240
tgggaggagg cgggacttcc tgcagcaaat tggggctgtg cgccgctcaa gcccgtttac
300
ctgctcccca ggccggcacc caggatgggc gaggtggagg ccccgggccg cttgtggctc
360
gagagccccc ctgggggagc gccccccatc ttcctgccct cggacgggca gccctggtc
420
ctgggcaggg gacccctgac ccaggttacg gaccggaagt gctccagaac tcaagtggag
480
ctggtcgcag atcctgagac ccggacagtg gcagtgaaac aggtatcagt gcctctgcaa
540
gggccagcaa ggcctgggga tgggatttgg ggaggaattg caagccgtca gtgaaggggt
600
acattaggaa aatctgattg gggccgggcg tggtggctca agcctgtaat cccagcactt
660
tgggaggccg aggcgggcgg atcgcttgaa cccaggagtt cgagaccagc ctgagcgaca
720
tggtgaaacc tgtctctcta aaaaattagc gggaatggtg gcgcgtcctt gtagttccta
780
atcgggaggc tgaagcggga ggatcccttg agcccagtag gtcaagggtg tagtgagcag
840
tgatcaccac actgtacttc agcctgggtg acagagcgag aacctgtctc aaaaaaagaa
900
aagaaaaaat atggc
915

<210> 3970
<211> 89
<212> PRT
<213> Homo sapiens

<400> 3970
Met Gly Glu Val Glu Ala Pro Gly Arg Leu Trp Leu Glu Ser Pro Pro
1   5   10   15
Gly Gly Ala Pro Pro Ile Phe Leu Pro Ser Asp Gly Gln Ala Leu Val
            20   25   30
Leu Gly Arg Gly Pro Leu Thr Gln Val Thr Asp Arg Lys Cys Ser Arg
        35   40   45
Thr Gln Val Glu Leu Val Ala Asp Pro Glu Thr Arg Thr Val Ala Val
    50   55   60
Lys Gln Val Ser Val Pro Leu Gln Gly Pro Ala Arg Pro Gly Asp Gly
65   70   75   80
Ile Trp Gly Gly Ile Ala Ser Arg Gln

85

<210> 3971
<211> 433
<212> DNA
<213> Homo sapiens

<400> 3971
acgcgtgact gatgatgttc tagcgggaga agacagaaga aagagagaga gaatatgaat
60
gacagatatg tggtattaag agctctggga aaaaaatgga gcatggaagg gagagcccgg
120
ctggggaacg ggtaatcaga gaaaccctca ctcatagggt ggtgcccttt atgcagagac
180
ttaaaggaag gagggaggtc ccctgacaga gagaatggta agtgcaaagg tcctgggtgg
240
gcttgtgttg aggaagagca aggccagtgt ggctggaaca gagtgagtga aggggagaga
300
gttgtaagca atgagcttag acaggaaatg gggtctggtt cacatgggaa atggtaggac
360
attgtccgaa cttgggcttt tactccgggt gaaatgggca ctcctataga tgctcccgtc
420
ctaatcacca gaa
433

<210> 3972
<211> 120
<212> PRT
<213> Homo sapiens

<400> 3972
Met Ser Tyr His Phe Pro Cys Glu Pro Asp Pro Ile Ser Cys Leu Ser
1   5   10   15
Ser Leu Leu Thr Thr Leu Ser Pro Ser Leu Thr Leu Phe Gln Pro His
            20   25   30
Trp Pro Cys Ser Ser Ser Thr Gln Ala His Pro Gly Pro Leu His Leu
        35   40   45
Pro Phe Ser Leu Ser Gly Asp Leu Pro Pro Ser Phe Lys Ser Leu His
    50   55   60
Lys Gly His His Pro Met Ser Glu Gly Phe Ser Asp Tyr Pro Phe Pro
65   70   75   80
Ser Arg Ala Leu Pro Ser Met Leu His Phe Phe Pro Arg Ala Leu Asn
                85   90   95
Thr Thr Tyr Leu Ser Phe Ile Phe Ser Leu Ser Phe Phe Cys Leu Leu
            100   105   110
Pro Leu Glu His His Gln Ser Arg
            115   120

<210> 3973
<211> 984
<212> DNA
<213> Homo sapiens

<400> 3973

3132

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caaccataca gagtcaaggt catcgacttt ggttcagcca gccacgtgtc caaggctgtg
120
tgctccacct acttgcagtc cagatattac agggcccctg agatcatcct tggtttacca
180
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240
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300
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420
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caggtgaaca tgacgacaga tttggaaggg agcgacatgt ggtagaaaa ggctgaccgg
540
cgggagttca ttgacctgtt gaagaagatg ctgaccattg atgctgacaa gagaatcact
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660
agcacacacg tcaaatcatg tttccagaac atggagatct gcaagcgtcg ggtgaatatg
720
tatgacacgg tgaaccagag caaaaccct ttcatcacgc acgtggcccc cagcacgtcc
780
accaacctga ccatgacctt taacaaccag ctgaccactg tccacaacca gccctcagcg
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gcatccatgg ctgcagcggc ccagcggagc atgcccctgc agacaggaac agcccagatt
900
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984
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<210> 3974
<211> 328
<212> PRT
<213> Homo sapiens
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<400> 3974
Leu Gly Leu Ile His Ala Asp Leu Lys Pro Glu Asn Ile Met Leu Val
 1               5                  10                  15
Asp Pro Ser Arg Gln Pro Tyr Arg Val Lys Val Ile Asp Phe Gly Ser
            20                  25                  30
Ala Ser His Val Ser Lys Ala Val Cys Ser Thr Tyr Leu Gln Ser Arg
            35                  40                  45
Tyr Tyr Arg Ala Pro Glu Ile Ile Leu Gly Leu Pro Phe Cys Glu Ala
        50                  55                  60
Ile Asp Met Trp Ser Leu Gly Cys Val Ile Ala Glu Leu Phe Leu Gly
65                  70                  75                  80
Trp Pro Leu Tyr Pro Gly Ala Ser Glu Tyr Asp Gln Ile Arg Tyr Ile
                85                  90                  95
Ser Gln Thr Gln Gly Leu Pro Ala Glu Tyr Leu Leu Ser Ala Gly Thr
```

```
              100                    105                    110
    Lys Thr Thr Arg Phe Phe Asn Arg Asp Thr Asp Ser Pro Tyr Pro Leu
              115                    120                    125
    Trp Arg Leu Lys Thr Pro Asp Asp His Glu Ala Glu Thr Gly Ile Lys
         130                    135                    140
    Ser Lys Glu Ala Arg Lys Tyr Ile Phe Asn Cys Leu Asp Asp Met Ala
    145                    150                    155                    160
    Gln Val Asn Met Thr Thr Asp Leu Glu Gly Ser Asp Met Leu Val Glu
                        165                    170                    175
    Lys Ala Asp Arg Arg Glu Phe Ile Asp Leu Leu Lys Lys Met Leu Thr
                   180                    185                    190
    Ile Asp Ala Asp Lys Arg Ile Thr Pro Ile Glu Thr Leu Asn His Pro
              195                    200                    205
    Phe Val Thr Met Thr His Leu Leu Asp Phe Pro His Ser Thr His Val
         210                    215                    220
    Lys Ser Cys Phe Gln Asn Met Glu Ile Cys Lys Arg Arg Val Asn Met
    225                    230                    235                    240
    Tyr Asp Thr Val Asn Gln Ser Lys Thr Pro Phe Ile Thr His Val Ala
                        245                    250                    255
    Pro Ser Thr Ser Thr Asn Leu Thr Met Thr Phe Asn Asn Gln Leu Thr
                   260                    265                    270
    Thr Val His Asn Gln Pro Ser Ala Ala Ser Met Ala Ala Ala Ala Gln
              275                    280                    285
    Arg Ser Met Pro Leu Gln Thr Gly Thr Ala Gln Ile Cys Ala Arg Pro
         290                    295                    300
    Asp Pro Phe Gln Gln Ala Leu Ile Val Cys Pro Pro Gly Leu Gln Ala
    305                    310                    315                    320
    Leu Gln Ala Ser Pro Phe Thr Arg
                        325
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<210> 3975
<211> 593
<212> DNA
<213> Homo sapiens

<400> 3975
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120
gctcttgggg gctcaaggga gcctgggcct ctgccagcct gcaagctgcc tccaactctc
180
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240
tgcttctgag gcgtctcgga atcataggcc tcccgtggaa ggggagcagc aggcgaggtc
300
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360
accaccaggg tacccagatc ccaggcggct cagccaggcc cagagcccca agagctgggc
420
tgttctctcc aactgggatc tggggtaggg gctgctcccc caagtccctg ggggactgtc
480
tgggacatcc aggccctgtc ttcttgtctt aaccactcac aacagagaac acgatgttct
540
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gtccacgaaa gaaggcccca cacttctccc atccggcctc cacgtaaacg cgt
593

<210> 3976
<211> 101
<212> PRT
<213> Homo sapiens

<400> 3976
Met Gly Phe Ser Leu Leu Glu Gly Pro Ala Ser Leu Gln Pro Pro His
1   5   10   15
Arg Glu Ser Leu Pro Leu His Ser Leu Pro Arg Asp Gly Ser Trp Gly
            20   25   30
Leu Lys Gly Ala Trp Ala Ser Ala Ser Leu Gln Ala Ala Ser Asn Ser
        35   40   45
Gln Ser Gly Phe Gly Cys Pro Gln Cys Ser Pro Glu Ala Ala Ala Pro
    50   55   60
His Pro Thr Ile Leu Leu Leu Arg Arg Leu Gly Ile Ile Gly Leu Pro
65   70   75   80
Trp Lys Gly Ser Ser Arg Arg Gly Leu Arg Glu Pro His Arg Cys Pro
                85   90   95
Leu Ala Cys Gln Thr
                100

<210> 3977
<211> 2668
<212> DNA
<213> Homo sapiens

<400> 3977
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120
ttgtctcggt gggttgattc ggcacaaacc gcccgaccca ggggccggtg cgcgtgtgga
180
aggggaagca ctcccctcgt ggtcgcctgg aggtgcgctg gaggaggggg tgacataacc
240
agggactcga ggtccgccgt gggaatgatc cacgaactgc tcttggctct gagcgggtac
300
cctgggtcca ttttcacctg gaacaagcgg agtggcctgc aggtatcgca ggacttccct
360
ttcctccacc ccagtgagac cagtgtcctg aatcgactct gccggctcgg cacagactat
420
attcgcttca ctgagttcat tgaacagtac acgggccatg tgcaacagca ggatcaccat
480
ccatctcaac agggccaagg tgggttacat ggaatctacc tgcgggcctt ctgcacaggg
540
ctggattctg ttttgcagcc ttatcgccaa gcactgcttg atttggaaca agagttcctg
600
ggtgatcccc atctctccat atcacatgtc aactacttcc tagaccagtt ccagcttctt
660
tttccctctg tgatggttgt agtagaacaa attaaaagtc aaaagattca tggttgtcaa
720

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atcctggaaa cagtctacaa acacagctgt ggggggttgc ctcctgttcg aagtgcactg
780
gaaaaaatcc tggccgtttg tcatggggtc atgtataaac agctctcagc ctggatgctc
840
catggactcc tcttggacca gcatgaagaa ttctttatca aacaggggcc atcttctggt
900
aatgtcagtg cccagccaga agaggacgag gaggatctgg gcattggggg actgacagga
960
aaacaactga gagaactgca ggacttgcgc ctgattgagg aagagaacat gctggcacca
1020
tctctgaagc agttttccct acgagtggag attttgccat cctacattcc agtgagggtt
1080
gctgaaaaaa tcctatttgt tggagaatct gtccagatgt ttgagaatca aaatgtgaac
1140
ctgactagaa aaggatccat tttgaaaaac caggaagaca cttttgctgc agagctgcac
1200
cgtctcaagc agcagccact cttcagcttg gtggactttg aacaggtggt ggatcgcatt
1260
cgcagcactg tggctgagca tctctggaag ttgatggtag aagaatccga tttactgggt
1320
cagctgaaga tcattaaaga cttttacctt ctgggacgtg gagaactgtt tcaggccttc
1380
attgacacag ctcaacacat gttgaaaaca ccacccactg cagtaactga gcatgatgtg
1440
aatgtggcct ttcaacagtc agcacacaag gtattgctag atgatgacaa ccttctccct
1500
ctgttgcact tgacaatcga gtatcacnng gaaaggagca caaagatgct actcaggnca
1560
agagaagggc cttctcggga aacttctccc cgggaagccc ctgcatctgg ctgggcagcc
1620
ctaggtcttt cctacaaagt acagtggcca ctacatattc tcttcacccc agctgtcctg
1680
gaaaagtaca atgttgtttt taagtactta ctgagtgtgc gccgggtgca agctgagctg
1740
cagcactgct gggccctaca aatgcagcgc aagcacctca agtcgaacca gactgatgca
1800
atcaagtggc gcctaagaaa tcacatggca tttttggtgg ataatcttca gtactatctc
1860
caggtagatg tgttggagtc tcagttctcc cagctgcttc atcagatcaa ttctacccga
1920
gactttgaaa gcatccgatt ggctcatgac cacttcctga gcaatttgct ggctcaatcc
1980
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2100
agcattctcg tgaagggctt tagccgccag tcttcactcc tgttcaagat tctctccagt
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2220
aaatactata cccaggctgg tggaactctg ggcagtttcg ggatgtgaaa atttctggct
2280
cataaattga aataacagcc acgttcccaa ggttgtaaca gaagattcaa aacatcccat
2340
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```
tctagccaca cacaaataaa tatctgcggc ttagtgatag gactctacct tttctcctag
2400
aagcagttac tgaacatcca ggagtacaac tccttcccat cattcccatg tggaagggtc
2460
tctcccatca aggagaacat gtggcatctc tgatccttta cattgagaac atttgttgga
2520
tatgttcatt tattcaatag tcatttattg agcacctact acgtaccttg gtactgttca
2580
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2640
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2668
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<210> 3978
<211> 667
<212> PRT
<213> Homo sapiens

<400> 3978

```
Met Ile His Glu Leu Leu Leu Ala Leu Ser Gly Tyr Pro Gly Ser Ile
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Phe Thr Trp Asn Lys Arg Ser Gly Leu Gln Val Ser Gln Asp Phe Pro
                20                  25                  30
Phe Leu His Pro Ser Glu Thr Ser Val Leu Asn Arg Leu Cys Arg Leu
            35                  40                  45
Gly Thr Asp Tyr Ile Arg Phe Thr Glu Phe Ile Glu Gln Tyr Thr Gly
        50                  55                  60
His Val Gln Gln Gln Asp His His Pro Ser Gln Gln Gly Gln Gly Gly
65                  70                  75                  80
Leu His Gly Ile Tyr Leu Arg Ala Phe Cys Thr Gly Leu Asp Ser Val
                85                  90                  95
Leu Gln Pro Tyr Arg Gln Ala Leu Leu Asp Leu Glu Gln Glu Phe Leu
                100                 105                 110
Gly Asp Pro His Leu Ser Ile Ser His Val Asn Tyr Phe Leu Asp Gln
            115                 120                 125
Phe Gln Leu Leu Phe Pro Ser Val Met Val Val Val Glu Gln Ile Lys
        130                 135                 140
Ser Gln Lys Ile His Gly Cys Gln Ile Leu Glu Thr Val Tyr Lys His
145                 150                 155                 160
Ser Cys Gly Gly Leu Pro Pro Val Arg Ser Ala Leu Glu Lys Ile Leu
                165                 170                 175
Ala Val Cys His Gly Val Met Tyr Lys Gln Leu Ser Ala Trp Met Leu
                180                 185                 190
His Gly Leu Leu Leu Asp Gln His Glu Glu Phe Phe Ile Lys Gln Gly
            195                 200                 205
Pro Ser Ser Gly Asn Val Ser Ala Gln Pro Glu Glu Asp Glu Glu Asp
        210                 215                 220
Leu Gly Ile Gly Gly Leu Thr Gly Lys Gln Leu Arg Glu Leu Gln Asp
225                 230                 235                 240
Leu Arg Leu Ile Glu Glu Glu Asn Met Leu Ala Pro Ser Leu Lys Gln
                245                 250                 255
Phe Ser Leu Arg Val Glu Ile Leu Pro Ser Tyr Ile Pro Val Arg Val
                260                 265                 270
Ala Glu Lys Ile Leu Phe Val Gly Glu Ser Val Gln Met Phe Glu Asn
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3137

```
               275                          280                          285
    Gln Asn Val Asn Leu Thr Arg Lys Gly Ser Ile Leu Lys Asn Gln Glu
           290                          295                   300
    Asp Thr Phe Ala Ala Glu Leu His Arg Leu Lys Gln Gln Pro Leu Phe
    305                   310                   315                   320
    Ser Leu Val Asp Phe Glu Gln Val Val Asp Arg Ile Arg Ser Thr Val
                          325                   330                   335
    Ala Glu His Leu Trp Lys Leu Met Val Glu Glu Ser Asp Leu Leu Gly
                   340                   345                   350
    Gln Leu Lys Ile Ile Lys Asp Phe Tyr Leu Leu Gly Arg Gly Glu Leu
                   355                   360                   365
    Phe Gln Ala Phe Ile Asp Thr Ala Gln His Met Leu Lys Thr Pro Pro
           370                   375                   380
    Thr Ala Val Thr Glu His Asp Val Asn Val Ala Phe Gln Gln Ser Ala
    385                   390                   395                   400
    His Lys Val Leu Leu Asp Asp Asp Asn Leu Leu Pro Leu Leu His Leu
                          405                   410                   415
    Thr Ile Glu Tyr His Xaa Glu Arg Ser Thr Lys Met Leu Leu Arg Xaa
                   420                   425                   430
    Arg Glu Gly Pro Ser Arg Glu Thr Ser Pro Arg Glu Ala Pro Ala Ser
                   435                   440                   445
    Gly Trp Ala Ala Leu Gly Leu Ser Tyr Lys Val Gln Trp Pro Leu His
           450                   455                   460
    Ile Leu Phe Thr Pro Ala Val Leu Glu Lys Tyr Asn Val Val Phe Lys
    465                   470                   475                   480
    Tyr Leu Leu Ser Val Arg Arg Val Gln Ala Glu Leu Gln His Cys Trp
                          485                   490                   495
    Ala Leu Gln Met Gln Arg Lys His Leu Lys Ser Asn Gln Thr Asp Ala
                   500                   505                   510
    Ile Lys Trp Arg Leu Arg Asn His Met Ala Phe Leu Val Asp Asn Leu
                   515                   520                   525
    Gln Tyr Tyr Leu Gln Val Asp Val Leu Glu Ser Gln Phe Ser Gln Leu
           530                   535                   540
    Leu His Gln Ile Asn Ser Thr Arg Asp Phe Glu Ser Ile Arg Leu Ala
    545                   550                   555                   560
    His Asp His Phe Leu Ser Asn Leu Leu Ala Gln Ser Phe Ile Leu Leu
                          565                   570                   575
    Lys Pro Val Phe His Cys Leu Asn Glu Ile Leu Asp Leu Cys His Ser
                          580                   585                   590
    Phe Cys Ser Leu Val Ser Gln Asn Leu Gly Pro Leu Asp Glu Arg Gly
           595                   600                   605
    Ala Ala Gln Leu Ser Ile Leu Val Lys Gly Phe Ser Arg Gln Ser Ser
           610                   615                   620
    Leu Leu Phe Lys Ile Leu Ser Ser Val Arg Asn His Gln Ile Asn Ser
    625                   630                   635                   640
    Asp Leu Ala Gln Leu Leu Leu Arg Leu Asp Tyr Asn Lys Tyr Tyr Thr
                   645                   650                   655
    Gln Ala Gly Gly Thr Leu Gly Ser Phe Gly Met
           660                   665
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<210> 3979
<211> 2746
<212> DNA
<213> Homo sapiens

<400> 3979
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60
caggcggtga cgagctgctc aggtgcgagt ggcgggggca caggggtggg caggggccgg
120
gtcagaggtg tccgggtcag aggacgcgtg cgataatctg cgtgcattcg tcgataactg
180
tctatgcgaa gcaccgacgc agccatgagt acctgcgggg cttcactctg tgccacaacg
240
agcgaaccgc tgtacaggag ctcgactagc tgtcgcaccg tctgcacagg caccaccgaa
300
ggccatccct ggggaacaga atgcaacccg ggatctagag agctgtcaca ttccaagaaa
360
tatttaaatt gtgctgattt tcttctggag aactgagccc agggaatgaa actctccatc
420
aagtcatggc tttgcgggca atagatcaga ggatattgcc agttttctaa tggattattg
480
ttatcgggca ggttttctct gaagcttctc agctgctgtt acattctact tggatgggaa
540
ctggagatca gccagatcac ttgtatgcac aaagctgccg tggatctgtc tttcaaacaa
600
gagctgcaga aaacgctata gcaaggttga agctttatcc actctgactc acccagaaag
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720
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1020
acctatcgct acctagctgc cacacctttta caaagaaagc ggtatcttac aattggactt
1080
tcttcagtaa agcgaaaaaa aggaaactat ttacttgaga caattaagtc aatttttgag
1140
caatccagct atgaagagct gaaggaaatt tcagtggtgg ttcacctagc agactttaat
1200
tcttcctggc gtgatgccat ggtccaggat attacacaga aatttgcgca ccatattatt
1260
gcaggaagat taatggttat acatgctcca gaggagtatt acccaatcct agatggcctt
1320
aaaagaaatt acaatgatcc agaagataga gtcaaatttc gttccaagca aaatgtagat
1380
tatgctttttc tgcttaattt ttgtgccaat acttcagact attatgtaat gcttgaagat
1440
gatgttcgat gttcaaaaaa tttcttaact gccatcaaga aagtcattgc atccctagaa
1500
ggaacttact gggtaactct tgaattctct aagcttggct acattggtaa actctatcat
1560

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tctcatgatc tcccacgttt ggcccatttt ttattaatgt tttatcaaga aatgccttgt
1620
gattggctat tgactcattt ccgtggtctg ttggctcaga aaaatgtgat ccgttttaaa
1680
ccatctctct ttcagcacat gggctattat tcatcataca aagggacgga gaataagctg
1740
aaggatgatg attttgaaga ggagtcattt gacattcctg ataacccccc tgcaagtctg
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1920
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2040
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2100
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2160
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2280
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23-0
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2400
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2460
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2520
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2580
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2640
ctggtttatt ttttctgtaa acttaagttt ccgttgactt ctgtacatct acaatgaata
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2746
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<210> 3980
<211> 478
<212> PRT
<213> Homo sapiens

<400> 3980
Met Phe Lys Phe His Gln Met Lys His Ile Phe Glu Ile Leu Asp Lys
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Met Arg Cys Leu Arg Lys Arg Ser Thr Val Ser Phe Leu Gly Val Leu
             20   25   30
Val Ile Phe Leu Leu Phe Met Asn Leu Tyr Ile Glu Asp Ser Tyr Val
             35   40   45
Leu Glu Gly Asp Lys Gln Leu Ile Arg Glu Thr Ser Thr His Gln Leu

```
                50                        55                        60
Asn Ser Glu Arg Tyr Val His Thr Phe Lys Asp Leu Ser Asn Phe Ser
65                        70                   75                   80
Gly Ala Ile Asn Val Thr Tyr Arg Tyr Leu Ala Ala Thr Pro Leu Gln
                     85                   90                   95
Arg Lys Arg Tyr Leu Thr Ile Gly Leu Ser Ser Val Lys Arg Lys Lys
                100                  105                  110
Gly Asn Tyr Leu Leu Glu Thr Ile Lys Ser Ile Phe Glu Gln Ser Ser
                115                  120                  125
Tyr Glu Glu Leu Lys Glu Ile Ser Val Val Val His Leu Ala Asp Phe
     130                  135                  140
Asn Ser Ser Trp Arg Asp Ala Met Val Gln Asp Ile Thr Gln Lys Phe
145                  150                  155                  160
Ala His His Ile Ile Ala Gly Arg Leu Met Val Ile His Ala Pro Glu
                165                  170                  175
Glu Tyr Tyr Pro Ile Leu Asp Gly Leu Lys Arg Asn Tyr Asn Asp Pro
                180                  185                  190
Glu Asp Arg Val Lys Phe Arg Ser Lys Gln Asn Val Asp Tyr Ala Phe
                195                  200                  205
Leu Leu Asn Phe Cys Ala Asn Thr Ser Asp Tyr Tyr Val Met Leu Glu
     210                  215                  220
Asp Asp Val Arg Cys Ser Lys Asn Phe Leu Thr Ala Ile Lys Lys Val
225                  230                  235                  240
Ile Ala Ser Leu Glu Gly Thr Tyr Trp Val Thr Leu Glu Phe Ser Lys
                245                  250                  255
Leu Gly Tyr Ile Gly Lys Leu Tyr His Ser His Asp Leu Pro Arg Leu
                260                  265                  270
Ala His Phe Leu Leu Met Phe Tyr Gln Glu Met Pro Cys Asp Trp Leu
                275                  280                  285
Leu Thr His Phe Arg Gly Leu Leu Ala Gln Lys Asn Val Ile Arg Phe
                290                  295                  300
Lys Pro Ser Leu Phe Gln His Met Gly Tyr Tyr Ser Ser Tyr Lys Gly
305                  310                  315                  320
Thr Glu Asn Lys Leu Lys Asp Asp Asp Phe Glu Glu Glu Ser Phe Asp
                325                  330                  335
Ile Pro Asp Asn Pro Pro Ala Ser Leu Tyr Thr Asn Met Asn Val Phe
                340                  345                  350
Glu Asn Tyr Glu Ala Ser Lys Ala Tyr Ser Ser Val Asp Glu Tyr Phe
                355                  360                  365
Trp Gly Lys Pro Pro Ser Thr Gly Asp Val Phe Val Ile Val Phe Glu
     370                  375                  380
Asn Pro Ile Ile Ile Lys Lys Ile Lys Val Asn Thr Gly Thr Glu Asp
385                  390                  395                  400
Arg Gln Asn Asp Ile Leu His His Gly Ala Leu Asp Val Gly Glu Asn
                405                  410                  415
Val Met Pro Ser Lys Gln Arg Arg Gln Cys Ser Ser Tyr Leu Arg Leu
                420                  425                  430
Gly Glu Phe Lys Asn Gly Asn Phe Glu Met Ser Gly Val Asn Gln Lys
                435                  440                  445
Ile Pro Phe Asp Ile His Cys Met Arg Ile Tyr Val Thr Lys Thr Gln
     450                  455                  460
Lys Glu Trp Leu Ile Ile Arg Ser Ile Ser Ile Trp Thr Ser
465                  470                  475
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<210> 3981
<211> 4447
<212> DNA
<213> Homo sapiens

<400> 3981
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120
cgctccaagt tcaaaggaga caaggctttg gatggctaca gtaagaaaaa atatgtgtgt
180
aaactgcttt tcatcttcct gcttggtcat gacattgact ttgggcacat ggaggctgtg
240
aatctgttga gttccaataa atacacagag aagcaaatag gttacctgtt catttctgtg
300
ctggtgaact cgaactcgga gctgatccgc ctgatcaaca cgccatcaa gaatgacctg
360
gccagccgca accccacctt catgggcctg ccctgcact gcatcgccag cgtgggcagc
420
cgggagatgg ccgaggcctt cgccggggag atccctaagg tcctcgtagc cggagacact
480
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3143

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<212> PRT
<213> Homo sapiens

<400> 3982

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            20                  25                  30
Lys Phe Lys Gly Asp Lys Ala Leu Asp Gly Tyr Ser Lys Lys Lys Tyr
        35                  40                  45
Val Cys Lys Leu Leu Phe Ile Phe Leu Leu Gly His Asp Ile Asp Phe
    50                  55                  60
Gly His Met Glu Ala Val Asn Leu Leu Ser Ser Asn Lys Tyr Thr Glu
65                  70                  75                  80
Lys Gln Ile Gly Tyr Leu Phe Ile Ser Val Leu Val Asn Ser Asn Ser
                85                  90                  95
Glu Leu Ile Arg Leu Ile Asn Asn Ala Ile Lys Asn Asp Leu Ala Ser
            100                 105                 110
Arg Asn Pro Thr Phe Met Gly Leu Ala Leu His Cys Ile Ala Ser Val
        115                 120                 125
Gly Ser Arg Glu Met Ala Glu Ala Phe Ala Gly Glu Ile Pro Lys Val
    130                 135                 140
Leu Val Ala Gly Asp Thr Met Asp Ser Val Lys Gln Ser Ala Ala Leu
145                 150                 155                 160
Cys Leu Leu Arg Leu Tyr Arg Thr Ser Pro Asp Leu Val Pro Met Gly
                165                 170                 175
Asp Trp Thr Ser Arg Val Val His Leu Leu Asn Asp Gln His Leu Gly
            180                 185                 190
Val Val Thr Ala Ala Thr Ser Leu Ile Thr Thr Leu Ala Gln Lys Asn
        195                 200                 205
Pro Glu Glu Phe Lys Thr Ser Val Ser Leu Ala Val Ser Arg Leu Ser
    210                 215                 220
Arg Ile Val Thr Ser Ala Ser Thr Asp Leu Gln Asp Tyr Thr Tyr Tyr
225                 230                 235                 240
Phe Val Pro Ala Pro Trp Leu Ser Val Lys Leu Leu Arg Leu Leu Gln
                245                 250                 255
Cys Tyr Pro Pro Pro Asp Pro Ala Val Arg Gly Arg Leu Thr Glu Cys
            260                 265                 270
Leu Glu Thr Ile Leu Asn Lys Ala Gln Glu Pro Pro Lys Ser Lys Lys
        275                 280                 285
Val Gln His Ser Asn Ala Lys Asn Ala Val Leu Phe Glu Ala Ile Ser
    290                 295                 300
Leu Ile Ile His His Asp Ser Glu Pro Asn Leu Leu Val Arg Ala Cys
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Asn Gln Leu Gly Gln Phe Leu Gln His Arg Glu Thr Asn Leu Arg Tyr
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Leu Ala Leu Glu Ser Met Cys Thr Leu Ala Ser Ser Glu Phe Ser His
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Glu Ala Val Lys Thr His Ile Asp Thr Val Ile Asn Ala Leu Lys Thr
        355                 360                 365
Glu Arg Asp Val Ser Val Arg Gln Arg Ala Ala Asp Leu Leu Tyr Ala
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Met Cys Asp Arg Ser Asn Ala Lys Gln Ile Val Ser Glu Met Leu Ser
385                 390                 395                 400
Tyr Leu Glu Thr Ala Asp Tyr Ser Ile Arg Glu Glu Ile Val Leu Lys
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Val Ala Ile Leu Ala Glu Lys Tyr Ala Val Asp Tyr Thr Trp Tyr Val
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Asp Thr Ile Leu Asn Leu Ile Arg Ile Ala Gly Asp Tyr Val Ser Glu
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Glu Val Trp Tyr Arg Val Ile Gln Ile Val Ile Asn Arg Asp Asp Val
        450                    455                    460
Gln Gly Tyr Ala Ala Lys Thr Val Phe Glu Ala Leu Gln Ala Pro Ala
465                    470                    475                    480
Cys His Glu Asn Met Val Lys Val Gly Gly Tyr Ile Leu Gly Glu Phe
                485                    490                    495
Gly Asn Leu Ile Ala Gly Asp Pro Arg Ser Ser Pro Pro Val Gln Phe
                500                    505                    510
Ser Leu Leu His Ser Lys Phe His Leu Cys Ser Val Ala Thr Arg Ala
        515                    520                    525
Leu Leu Leu Ser Thr Tyr Ile Lys Phe Val Asn Leu Phe Pro Glu Val
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Lys Pro Thr Ile Gln Asp Val Leu Arg Ser Asp Ser Gln Leu Arg Asn
545                    550                    555                    560
Ala Asp Val Glu Leu Gln Gln Arg Ala Val Glu Tyr Leu Arg Leu Ser
                565                    570                    575
Thr Val Ala Ser Thr Asp Ile Leu Ala Thr Val Leu Glu Glu Met Pro
                580                    585                    590
Pro Phe Pro Glu Arg Glu Ser Ser Ile Leu Ala Lys Leu Lys Lys Lys
        595                    600                    605
Lys Gly Pro Ser Thr Val Thr Asp Leu Glu Asp Thr Lys Arg Asp Arg
        610                    615                    620
Ser Val Asp Val Asn Gly Gly Pro Glu Pro Ala Pro Ala Ser Thr Ser
625                    630                    635                    640
Ala Val Ser Thr Pro Ser Pro Ser Ala Asp Leu Leu Gly Leu Gly Ala
                645                    650                    655
Ala Pro Pro Ala Pro Ala Gly Pro Pro Pro Ser Ser Gly Gly Ser Gly
                660                    665                    670
Leu Leu Val Asp Val Phe Ser Asp Ser Ala Ser Val Val Ala Pro Leu
        675                    680                    685
Ala Pro Gly Ser Glu Asp Asn Phe Ala Arg Phe Val Cys Lys Asn Asn
        690                    695                    700
Gly Val Leu Phe Glu Asn Gln Leu Leu Gln Ile Gly Leu Lys Ser Glu
705                    710                    715                    720
Phe Arg Gln Asn Leu Gly Arg Met Phe Ile Phe Tyr Gly Asn Lys Thr
                725                    730                    735
Ser Thr Gln Phe Leu Asn Phe Thr Pro Thr Leu Ile Cys Ser Asp Asp
                740                    745                    750
Leu Gln Pro Asn Leu Asn Leu Gln Thr Lys Pro Val Asp Pro Thr Val
                755                    760                    765
Glu Gly Gly Ala Gln Val Gln Gln Val Val Asn Ile Glu Cys Val Ser
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Asp Phe Thr Glu Ala Pro Val Leu Asn Ile Gln Phe Arg Tyr Gly Gly
785                    790                    795                    800
Thr Phe Gln Asn Val Ser Val Gln Leu Pro Ile Thr Leu Asn Lys Phe
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Phe Gln Pro Thr Glu Met Ala Ser Gln Asp Phe Phe Gln Arg Trp Lys
        820                    825                    830
Gln Leu Ser Asn Pro Gln Gln Glu Val Gln Asn Ile Phe Lys Ala Lys
        835                    840                    845
His Pro Met Asp Thr Glu Val Thr Lys Ala Lys Ile Ile Gly Phe Gly
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      850                     855                     860
Ser Ala Leu Leu Glu Glu Val Asp Pro Asn Pro Ala Asn Phe Val Gly
865                     870                     875                     880
Ala Gly Ile Ile His Thr Lys Thr Thr Gln Ile Gly Cys Leu Leu Arg
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Leu Glu Pro Asn Leu Gln Ala Gln Met Tyr Arg Leu Thr Leu Arg Thr
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Ser Lys Glu Ala Val Ser Gln Arg Leu Cys Glu Leu Leu Ser Ala Gln
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<210> 3983
<211> 2300
<212> DNA
<213> Homo sapiens


<400> 3983
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2300


<210> 3984
<211> 484
<212> PRT
<213> Homo sapiens

<400> 3984
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Ile Ser Glu Lys Val Leu Thr Lys Glu Val Glu Leu Asp Arg Leu Arg
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3148

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          35                    40                    45
Asp Thr Val Lys Ala Leu Thr Arg Glu Gln Glu Lys Leu Leu Gly Gln
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Leu Lys Glu Val Gln Ala Asp Lys Glu Gln Ser Glu Ala Glu Leu Gln
65                    70                    75                    80
Val Ala Gln Gln Glu Asn His His Leu Asn Leu Asp Leu Lys Glu Ala
                     85                    90                    95
Lys Ser Trp Gln Glu Glu Gln Ser Ala Gln Ala Gln Arg Leu Lys Asp
               100                   105                   110
Lys Val Ala Gln Met Lys Asp Thr Leu Gly Gln Ala Gln Gln Arg Val
               115                   120                   125
Ala Glu Leu Glu Pro Leu Lys Glu Gln Leu Arg Gly Ala Gln Glu Leu
     130                   135                   140
Ala Ala Ser Ser Gln Gln Lys Ala Thr Leu Leu Gly Glu Glu Leu Ala
145                   150                   155                   160
Ser Ala Ala Ala Ala Arg Asp Arg Thr Ile Ala Glu Leu His Arg Ser
               165                   170                   175
Arg Leu Glu Val Ala Glu Val Asn Gly Arg Leu Ala Glu Leu Gly Leu
               180                   185                   190
His Leu Lys Glu Glu Lys Cys Gln Trp Ser Lys Glu Arg Ala Gly Leu
               195                   200                   205
Leu Gln Ser Val Glu Ala Glu Lys Asp Lys Ile Leu Lys Leu Ser Ala
     210                   215                   220
Glu Ile Leu Arg Leu Glu Lys Ala Val Gln Glu Glu Lys Thr Gln Asn
225                   230                   235                   240
Gln Val Phe Lys Thr Glu Leu Ala Arg Glu Lys Asp Ser Ser Leu Val
               245                   250                   255
Gln Leu Ser Glu Ser Lys Arg Glu Leu Thr Glu Leu Arg Ser Ala Leu
               260                   265                   270
Arg Val Leu Gln Lys Glu Lys Glu Gln Leu Gln Glu Glu Lys Gln Glu
     275                   280                   285
Leu Leu Glu Tyr Met Arg Lys Leu Glu Ala Arg Leu Glu Lys Val Ala
     290                   295                   300
Asp Glu Lys Trp Asn Glu Asp Ala Thr Thr Glu Asp Glu Glu Ala Ala
305                   310                   315                   320
Val Gly Leu Ser Cys Pro Ala Ala Leu Thr Asp Ser Glu Asp Glu Ser
               325                   330                   335
Pro Glu Asp Met Arg Leu Pro Pro Tyr Gly Leu Cys Glu Arg Gly Asp
               340                   345                   350
Pro Gly Ser Ser Pro Ala Gly Pro Arg Glu Ala Ser Pro Leu Val Val
               355                   360                   365
Ile Ser Gln Pro Ala Pro Ile Ser Pro His Leu Ser Gly Pro Ala Glu
     370                   375                   380
Asp Ser Ser Ser Asp Ser Glu Ala Glu Asp Glu Lys Ser Val Leu Met
385                   390                   395                   400
Ala Ala Val Gln Ser Gly Gly Glu Glu Ala Asn Leu Leu Leu Pro Glu
               405                   410                   415
Leu Gly Ser Ala Phe Tyr Asp Met Ala Ser Gly Phe Thr Val Gly Thr
               420                   425                   430
Leu Ser Glu Thr Ser Thr Gly Gly Pro Ala Thr Pro Thr Trp Lys Glu
               435                   440                   445
Cys Pro Ile Cys Lys Glu Arg Phe Pro Ala Glu Ser Asp Lys Asp Ala
     450                   455                   460
Leu Glu Asp His Met Asp Gly His Phe Phe Phe Ser Thr Gln Asp Pro
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Phe Thr Phe Glu

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<211> 523
<212> DNA
<213> Homo sapiens

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420
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523

<210> 3986
<211> 110
<212> PRT
<213> Homo sapiens

<400> 3986
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            20   25   30
Lys Val Glu Val Ala Pro Gly Thr Ser Val Leu Ser Ser Ser Ala Ser
        35   40   45
Ser Ser Cys Phe Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys
        50   55   60
Cys Cys Trp Met Arg Leu Arg Ser Glu Arg Leu Ser Ser Ala Leu Ala
65   70   75   80
Ala Ala Gly Thr Ser Arg Ala Phe Ser Ser Pro Thr Ala Arg Pro Arg
                85   90   95
Ser Arg Val Gln Gly Thr Arg Arg Gln Ser Leu Ala Met Ala
            100   105   110

<210> 3987
<211> 5954
<212> DNA
<213> Homo sapiens

3150

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180
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240
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Leu Gln Glu Thr Gln Gln Leu Leu Gln Met Gln Gln Lys Tyr Leu Glu
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Glu Gln Ile Gly Ala His Arg Lys Ser Lys Lys Ala Leu Ser Ala Lys

3154

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Leu Glu Gln Ile Arg Lys Gln Gln Lys Glu His Ala Glu Leu Ile Glu
                    100                         105                         110
Asp Tyr Arg Ile Lys Gln Gln Gln Cys Ala Met Ala Pro Pro Thr
            115                         120                         125
Met Met Pro Ser Val Gln Pro Gln Pro Pro Leu Ile Pro Gly Ala Thr
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Pro Pro Thr Met Ser Gln Pro Thr Phe Pro Met Val Pro Gln Gln Leu
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Gln His Gln Gln His Thr Thr Val Ile Ser Gly His Thr Ser Pro Val
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Arg Met Pro Ser Leu Pro Gly Trp Gln Pro Asn Ser Ala Pro Ala His
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Leu Pro Leu Asn Pro Pro Arg Ile Gln Pro Pro Ile Ala Gln Leu Pro
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Ile Lys Thr Cys Thr Pro Ala Pro Gly Thr Val Ser Asn Ala Asn Pro
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Gln Ser Gly Pro Pro Pro Arg Val Glu Phe Asp Asp Asn Asn Pro Phe
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Ser Glu Ser Phe Gln Glu Arg Glu Arg Lys Glu Arg Leu Arg Glu Gln
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Gln Glu Arg Gln Arg Ile Gln Leu Met Gln Glu Val Asp Arg Gln Arg
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Ala Leu Gln Gln Arg Met Glu Met Glu Gln His Gly Met Val Gly Ser
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Glu Ile Ser Ser Ser Arg Thr Ser Val Ser Gln Ile Pro Phe Tyr Ser
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Ser Asp Leu Pro Cys Asp Phe Met Gln Pro Leu Gly Pro Leu Gln Gln
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Ser Pro Gln His Gln Gln Gln Met Gly Gln Val Leu Gln Gln Gln Asn
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Ile Gln Gln Gly Ser Ile Asn Ser Pro Ser Thr Gln Thr Phe Met Gln
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Pro Ser Ile Pro Val Gly Ser Pro Asn Phe Ser Ser Val Lys Gln Gly
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Ser Phe Thr Pro Ala Leu Pro Ala Ala Pro Pro Val Ala Asn Ser Ser
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Gly Ser Thr Gln Ser Leu Ile Gln Leu Tyr Ser Asp Ile Ile Pro Glu
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Glu Lys Lys Lys Lys Lys Arg Thr Arg Lys Lys Arg Asp Asp Asp
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Gln Gln Thr Tyr Ala Asn Ser Glu Val Asp Lys Leu Ser Met Glu Thr
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Pro Ala Lys Thr Glu Glu Ile Lys Leu Glu Lys Ala Glu Thr Glu Ser
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Cys Pro Gly Gln Glu Glu Pro Lys Leu Glu Glu Gln Asn Gly Ser Lys
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Val Glu Gly Asn Ala Val Ala Cys Pro Val Ser Ser Ala Gln Ser Pro
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Gln Lys Pro Glu Gly Ser Ile Cys Ser Glu Asp Asp Cys Thr Lys Asp
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Arg Thr Gly Glu Lys Ala Ala Pro Arg Ser Lys Arg Lys Lys Asp
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Glu Glu Glu Lys Gln Ala Met Tyr Ser Ser Thr Asp Thr Phe Thr His
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Leu Lys Gln Val Arg Gln Leu Ser Leu Leu Pro Leu Met Glu Pro Ile
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Ile Gly Val Asn Phe Ala His Phe Leu Pro Tyr Gly Ser Gly Gln Phe
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Asn Ser Gly Asn Arg Leu Leu Gly Thr Phe Gly Ser Ala Thr Leu Glu
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Gly Val Ser Asp Tyr Tyr Ser Gln Leu Ile Tyr Lys Gln Asn Asn Leu
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Ser Asn Pro Pro Thr Pro Pro Ala Ser Leu Pro Pro Thr Pro Pro Pro
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Met Ala Cys Gln Lys Met Ala Asn Gly Phe Ala Thr Thr Glu Glu Leu
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Ala Gly Lys Ala Gly Val Leu Val Ser His Glu Val Thr Lys Thr Leu
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Gly Pro Lys Pro Phe Gln Leu Pro Phe Arg Pro Gln Asp Asp Leu Leu
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Ala Arg Ala Leu Ala Gln Gly Pro Lys Thr Val Asp Val Pro Ala Ser
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Leu Pro Thr Pro Pro His Asn Asn Gln Glu Glu Leu Arg Ile Gln Asp
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His Cys Gly Asp Arg Asp Thr Pro Asp Ser Phe Val Pro Ser Ser Ser
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His Pro Thr Ala Ala Glu Asn Ile Ser Ser Val Val Ala Ala Phe Ser
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Cys His Cys Lys Val Val Ile Leu Gly Ser Gly Val Arg Lys Ser Phe
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Cys Ala Ile Lys Ala Gln Cys Met Phe Phe Lys Asp Lys Thr Met Leu
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Cys Pro Met His Lys Pro Lys Gly Ile His Glu Gln Glu Leu Ser Tyr
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Phe Ala Val Phe Arg Arg Val Tyr Val Gln Arg Asp Glu Val Arg Gln
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3158

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2760
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4380
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4500
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3161

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4522
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<210> 3990
<211> 955
<212> PRT
<213> Homo sapiens
```

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<400> 3990
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Arg Ser Ala Ser Arg Ser Arg Ser Arg Ser Phe Ser Lys Ser Arg Ser
            20                  25                  30
Arg Ser Arg Ser Leu Ser Arg Ser Arg Lys Arg Arg Leu Ser Ser Arg
        35                  40                  45
Ser Arg Ser Arg Ser Tyr Ser Pro Ala His Asn Arg Glu Arg Asn His
    50                  55                  60
Pro Arg Val Tyr Gln Asn Arg Asp Phe Arg Gly His Asn Arg Gly Tyr
65                  70                  75                  80
Arg Arg Pro Tyr Tyr Phe Arg Gly Arg Asn Arg Gly Phe Tyr Pro Trp
                85                  90                  95
Gly Gln Tyr Asn Arg Gly Gly Tyr Gly Asn Tyr Arg Ser Asn Trp Gln
            100                 105                 110
Asn Tyr Arg Gln Ala Tyr Ser Pro Arg Arg Gly Arg Ser Arg Ser Arg
        115                 120                 125
Ser Pro Lys Arg Arg Ser Pro Ser Pro Arg Ser Arg Ser His Ser Arg
    130                 135                 140
Asn Ser Asp Lys Ser Ser Ser Asp Arg Ser Arg Arg Ser Ser Ser Ser
145                 150                 155                 160
Arg Ser Ser Ser Asn His Ser Arg Val Glu Ser Ser Lys Arg Lys Ser
                165                 170                 175
Ala Lys Glu Lys Lys Ser Ser Ser Lys Asp Ser Arg Pro Ser Gln Ala
            180                 185                 190
Ala Gly Asp Asn Gln Gly Asp Glu Val Lys Glu Gln Thr Phe Ser Gly
        195                 200                 205
Gly Thr Ser Gln Asp Thr Lys Ala Ser Glu Ser Ser Lys Pro Trp Pro
    210                 215                 220
Asp Ala Thr Tyr Gly Thr Gly Ser Ala Ser Arg Ala Ser Ala Val Ser
225                 230                 235                 240
Glu Leu Ser Pro Arg Glu Arg Ser Pro Ala Leu Lys Ser Pro Leu Gln
                245                 250                 255
Ser Val Val Val Arg Arg Arg Ser Pro Arg Pro Ser Pro Val Pro Lys
                260                 265                 270
Pro Ser Pro Pro Leu Ser Ser Thr Ser Gln Met Gly Ser Thr Leu Pro
            275                 280                 285
Ser Gly Ala Gly Tyr Gln Ser Gly Thr His Gln Gly Gln Phe Asp His
        290                 295                 300
Gly Ser Gly Ser Leu Ser Pro Ser Lys Lys Ser Pro Val Gly Lys Ser
305                 310                 315                 320
Pro Pro Ser Thr Gly Ser Thr Tyr Gly Ser Ser Gln Lys Glu Glu Ser
                325                 330                 335
Ala Ala Ser Gly Gly Ala Ala Tyr Thr Lys Arg Tyr Leu Glu Glu Gln
            340                 345                 350
Lys Thr Glu Asn Gly Lys Asp Lys Glu Gln Lys Gln Thr Asn Thr Asp
```

```
              355                    360                    365
    Lys Glu Lys Ile Lys Glu Lys Gly Ser Phe Ser Asp Thr Gly Leu Gly
        370                    375              380
    Asp Gly Lys Met Lys Ser Asp Ser Phe Ala Pro Lys Thr Asp Ser Glu
    385                    390                    395              400
    Lys Pro Phe Arg Gly Ser Gln Ser Pro Lys Arg Tyr Lys Leu Arg Asp
                    405                    410                    415
    Asp Phe Glu Lys Lys Met Ala Asp Phe His Lys Glu Glu Met Asp Asp
                    420                    425                    430
    Gln Asp Lys Asp Lys Ala Lys Gly Arg Lys Glu Ser Glu Phe Asp Asp
                    435                    440                    445
    Glu Pro Lys Phe Met Ser Lys Val Ile Gly Ala Asn Lys Asn Gln Glu
            450                    455                    460
    Glu Glu Lys Ser Gly Lys Trp Glu Gly Leu Val Tyr Ala Pro Pro Gly
    465                    470                    475                    480
    Lys Glu Lys Gln Arg Lys Thr Glu Glu Leu Glu Glu Glu Ser Phe Pro
                    485                    490                    495
    Glu Arg Ser Lys Lys Glu Asp Arg Gly Lys Arg Ser Glu Gly Gly His
            500                    505                    510
    Arg Gly Phe Val Pro Glu Lys Asn Phe Arg Val Thr Ala Tyr Lys Ala
            515                    520                    525
    Val Gln Glu Lys Ser Ser Ser Pro Pro Pro Arg Lys Thr Ser Glu Ser
            530                    535                    540
    Arg Asp Lys Leu Gly Ala Lys Gly Asp Phe Pro Thr Gly Lys Ser Ser
    545                    550                    555                    560
    Phe Ser Ile Thr Arg Glu Ala Gln Val Asn Val Arg Met Asp Ser Phe
                    565                    570                    575
    Asp Glu Asp Leu Ala Arg Pro Ser Gly Leu Leu Ala Gln Glu Arg Lys
                    580                    585                    590
    Leu Cys Arg Asp Leu Val His Ser Asn Lys Lys Glu Gln Glu Phe Arg
            595                    600                    605
    Ser Ile Phe Gln His Ile Gln Ser Ala Gln Ser Gln Arg Ser Pro Ser
            610                    615                    620
    Glu Leu Phe Ala Gln His Ile Val Thr Ile Val His His Val Lys Glu
    625                    630                    635                    640
    His His Phe Gly Ser Ser Gly Met Thr Leu His Glu Arg Phe Thr Lys
                    645                    650                    655
    Tyr Leu Lys Arg Gly Thr Glu Gln Glu Ala Ala Lys Asn Lys Lys Ser
            660                    665                    670
    Pro Glu Ile His Arg Arg Ile Asp Ile Ser Pro Ser Thr Phe Arg Lys
            675                    680                    685
    His Gly Leu Ala His Asp Glu Met Lys Ser Pro Arg Glu Pro Gly Tyr
            690                    695                    700
    Lys Ala Glu Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp
    705                    710                    715                    720
    Ile Glu Arg Arg Lys Lys His Lys Glu Arg Asp Leu Lys Arg Gly Lys
                    725                    730                    735
    Ser Arg Glu Ser Val Asp Ser Arg Asp Ser Ser His Ser Arg Glu Arg
                    740                    745                    750
    Ser Ala Glu Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys
            755                    760                    765
    Lys His Arg Arg Ala Arg Asp Arg Ser Arg Ser Ser Ser Ser Ser Ser
    770                    775                    780
    Gln Ser Ser His Ser Tyr Lys Ala Glu Glu Tyr Thr Glu Glu Thr Glu
```

```
785                    790                    795                    800
Glu Arg Glu Glu Ser Thr Thr Gly Phe Asp Lys Ser Arg Leu Gly Thr
                    805                    810                    815
Lys Asp Phe Val Gly Pro Ser Glu Arg Gly Gly Gly Arg Ala Arg Gly
                820                    825                    830
Thr Phe Gln Phe Arg Ala Arg Gly Arg Gly Trp Gly Arg Gly Asn Tyr
                835                    840                    845
Ser Gly Asn Asn Asn Asn Asn Ser Asn Asn Asp Phe Gln Lys Arg Asn
        850                    855                    860
Arg Glu Glu Glu Trp Asp Pro Glu Tyr Thr Pro Lys Ser Lys Lys Tyr
865                    870                    875                    880
Tyr Leu His Asp Asp Arg Glu Gly Glu Gly Ser Asp Lys Trp Val Ser
                885                    890                    895
Arg Gly Arg Gly Arg Gly Ala Phe Pro Arg Gly Arg Gly Arg Phe Met
                900                    905                    910
Phe Arg Lys Ser Ser Thr Ser Pro Lys Trp Ala His Asp Lys Phe Ser
            915                    920                    925
Gly Glu Glu Gly Glu Ile Glu Asp Asp Glu Ser Gly Thr Glu Asn Arg
        930                    935                    940
Glu Glu Lys Asp Asn Ile Gln Pro Thr Thr Glu
945                    950                    955
```

```
<210> 3991
<211> 381
<212> DNA
<213> Homo sapiens

<400> 3991
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120
cagggtatgt attatactcc accaccacaa tgtgtgtccc gctttgtccg acctccacca
180
tctgctcctg aacctgctcc tccctacttg gatcattatc caccctacct ccaagaacgt
240
gttgtaaact ctcagtatgg cacacagcca cagcagtacc cacctatata cccatctcac
300
tatgatggcc gtcgagtgta ccctgctccg tcttacacaa gagaagagat attccgagaa
360
agccctatac ccattgagat t
381
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```
<210> 3992
<211> 127
<212> PRT
<213> Homo sapiens

<400> 3992
Xaa Tyr Gln Pro Leu Arg Met Val Pro Arg Gly Ser Gln Leu Tyr Pro
1                   5                  10                  15
Ala Gln Gln Thr Asp Val Tyr Tyr Gln Asp Pro Arg Gly Ala Ala Pro
                20                  25                  30
Pro Phe Glu Pro Ala Pro Tyr Gln Gln Gly Met Tyr Tyr Thr Pro Pro
```

```
            35                        40                        45
Pro Gln Cys Val Ser Arg Phe Val Arg Pro Pro Pro Ser Ala Pro Glu
       50                        55                       60
Pro Ala Pro Pro Tyr Leu Asp His Tyr Pro Pro Tyr Leu Gln Glu Arg
65                       70                  75                       80
Val Val Asn Ser Gln Tyr Gly Thr Gln Pro Gln Gln Tyr Pro Pro Ile
                   85                        90                        95
Tyr Pro Ser His Tyr Asp Gly Arg Arg Val Tyr Pro Ala Pro Ser Tyr
                  100                       105                       110
Thr Arg Glu Glu Ile Phe Arg Glu Ser Pro Ile Pro Ile Glu Ile
          115                       120                       125
```

<210> 3993
<211> 394
<212> DNA
<213> Homo sapiens

<400> 3993
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gcggtcgcgt cccacaggct gccgagcgga gcgcgcacag aggggccaa cattaacaaa
120
ccggattgtg agggtgaaac tcccattcac aaggcagctc gctctgggag cctagaatgc
180
atcagtgccc ttgtggcgaa tggggctcac gtcgagtaag tgtctttcgt ttattctttc
240
cagctaaaga tgtagttgag gatgttttgt ttaaaggcag tacataagca ggcaaaagtc
300
ctaaaacttt gttttcaaaa ttagtaatgt aattttgcct tttagaacag ttggtgttag
360
tgaggaaaat tgtgtggatt aaattgatct ccag
394

<210> 3994
<211> 72.
<212> PRT
<213> Homo sapiens

<400> 3994
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Xaa Ala Trp Gly Arg Thr Arg Glu Ala Ala Ala Ala Gln Arg Asn
1                   5                   10                      15
Glu Thr Ser Ala Ala Val Ala Ser His Arg Leu Pro Ser Gly Ala Arg
                  20                  25                  30
Thr Glu Gly Ala Asn Ile Asn Lys Pro Asp Cys Glu Gly Glu Thr Pro
          35                  40                  45
Ile His Lys Ala Ala Arg Ser Gly Ser Leu Glu Cys Ile Ser Ala Leu
       50                  55                  60
Val Ala Asn Gly Ala His Val Glu
65                  70
```

<210> 3995
<211> 715
<212> DNA
<213> Homo sapiens

<400> 3995
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120
cggacccagg ccattcggag acgccacaat gcaggcagca accccacccc tccagcctct
180
gtcatgggct cgccgcccag cagcctgcag gaagctcagc ggggccgggc tgcctcccac
240
tcccgggcgc tgacgctgcc ctctgcgctg catttcgcct cttcactgtt gctcacccgg
300
gccggtgcca atgtgcatga ggcctgcacc tttgatgaca cttctgaggg tgctgtgcac
360atgagagcgg tgtgcggcgt tcctacacct ttggcctggc tggaggcggc   420
tacgagaacc ctgtagggca gcaaggggag cagacagcta atggagcctg ggaccgacac
480
tcgcattcct ccagcttcca ctcggctgat gtccctgagg ctacaggcgg cctgaacctg
540
ctgcagccga ggcctgtggt tctgcagggc atgcaggtgc gccgggtgcc cctggagatc
600
ccggagtttg acctgctgga ccaggactcc ctgcacgaat cccaggagca gacactgatg
660
gaagaagcgc cacccgggc ccagcatagt tacaagtact tgggcttcgg agaga
715

<210> 3996
<211> 235
<212> PRT
<213> Homo sapiens

<400> 3996
Arg Gly Pro Ala Ala Asn Gln Pro Gly Trp Arg Gly Glu Leu Gln Glu
1   5   10   15
Glu Gly Ala Val Gly Gly Ala Ala Ala Glu Thr Gly Arg Arg Asp Arg
            20   25   30
Ser Ser Ser Val Arg Arg Thr Gln Ala Ile Arg Arg Arg His Asn Ala
        35   40   45
Gly Ser Asn Pro Thr Pro Pro Ala Ser Val Met Gly Ser Pro Pro Ser
    50   55   60
Ser Leu Gln Glu Ala Gln Arg Gly Arg Ala Ala Ser His Ser Arg Ala
65   70   75   80
Leu Thr Leu Pro Ser Ala Leu His Phe Ala Ser Ser Leu Leu Leu Thr
                85   90   95
Arg Ala Gly Ala Asn Val His Glu Ala Cys Thr Phe Asp Asp Thr Ser
            100   105   110
Glu Gly Ala Val His Tyr Phe Tyr Asp Glu Ser Gly Val Arg Arg Ser
            115   120   125
Tyr Thr Phe Gly Leu Ala Gly Gly Gly Tyr Glu Asn Pro Val Gly Gln
    130   135   140
Gln Gly Glu Gln Thr Ala Asn Gly Ala Trp Asp Arg His Ser His Ser
145   150   155   160
Ser Ser Phe His Ser Ala Asp Val Pro Glu Ala Thr Gly Gly Leu Asn
                165   170   175
Leu Leu Gln Pro Arg Pro Val Val Leu Gln Gly Met Gln Val Arg Arg

```
                 180                    185                   190
Val Pro Leu Glu Ile Pro Glu Phe Asp Leu Leu Asp Gln Asp Ser Leu
        195                    200                   205
His Glu Ser Gln Glu Gln Thr Leu Met Glu Glu Ala Pro Pro Arg Ala
        210                    215                   220
Gln His Ser Tyr Lys Tyr Leu Gly Phe Gly Glu
225                    230                   235
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```
<210> 3997
<211> 7484
<212> DNA
<213> Homo sapiens

<400> 3997
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120
ccgccctgag gtgcctagaa tgggttccgg cctccgggga ggttcccagt aaccgcagga
180
gccaccattg atttggcgtc tgctgggtgc aaagcccagc gcgctaaccc tttactcgcg
240
acctttcgct tcaccttcac agcagccctg cgaggagagt tgtggactgg ggcaaccttt
300
gccagtgatg agaagtgatg ctcgtggcag tgctgaatct ctctgaatat gattcgaatt
360
gcagccttaa atgccagctc caccattgag gatgatcatg aaggaagctt taaaagtcac
420
aaaacccaga caaaggaggc tcaggaagca gaggcttttg cattgtacca caaggccctt
480
gatctgcaga aacatgaccg gtttgaggag tctgccaaag cctaccatga gctcttggag
540
gcgagcctgc tgcgggaggc agtttcatcc ggtgatgaga agagggggtt gaaacaccct
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660
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720
aacctctggt ataagattgg acatgtggcc ctgaggctca tccggatccc cctggctcgc
780
catgcttttg aggaagggct gcggtgcaat cctgaccact ggccctgttt ggataaccta
840
atcactgtcc tgtacaccct cagtgattac acaacatgtc tgtacttcat ctgcaaagct
900
ttggagaagg attgccggta cagcaaaggg ctggtcctca aggagaagat ttttgaggag
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1020
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1080
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1200
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accacctgtg agcccccacg tcccagcctt ggcaaaagga ttgatttgtc ggactaccag
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1320
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2220
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2820
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His Asp Arg Phe Glu Glu Ser Ala Lys Ala Tyr His Glu Leu Leu Glu
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Ala Ser Leu Leu Arg Glu Ala Val Ser Ser Gly Asp Glu Lys Glu Gly
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Leu Lys His Pro Gly Leu Ile Leu Lys Tyr Ser Thr Tyr Lys Asn Leu
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Ala Gln Leu Ala Ala Gln Arg Glu Asp Leu Glu Thr Ala Met Glu Phe
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Tyr Leu Glu Ala Val Met Leu Asp Ser Thr Asp Val Asn Leu Trp Tyr
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Lys Ile Gly His Val Ala Leu Arg Leu Ile Arg Ile Pro Leu Ala Arg
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His Ala Phe Glu Glu Gly Leu Arg Cys Asn Pro Asp His Trp Pro Cys
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Leu Asp Asn Leu Ile Thr Val Leu Tyr Thr Leu Ser Asp Tyr Thr Thr
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Cys Leu Tyr Phe Ile Cys Lys Ala Leu Glu Lys Asp Cys Arg Tyr Ser
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Arg Lys Asp Ser Leu Arg Met Phe Leu Lys Cys Asp Met Ser Ile His
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Asp Val Ser Val Ser Ala Ala Glu Thr Gln Ala Ile Val Asp Glu Ala
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Pro Asp Leu Lys Leu Val Gln Pro Ile Pro Phe Phe Thr Trp Lys Cys
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Leu Gly Glu Ser Leu Leu Ala Met Tyr Asn His Leu Thr Thr Cys Glu
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Asp Pro Ser Gln Pro Leu Glu Ser Ser Met Val Val Thr Pro Val Asn
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Glu Pro Val Val Ser Tyr Thr Ser Val Ala Thr Thr Ser Phe Pro Leu
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Gly Gly Asp Lys Ser Lys Lys Gly Val Lys Arg Lys Lys Ile Ser Glu
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Lys Cys Lys Lys Glu Glu Lys Val Asp Phe Gln Glu Leu Leu Met Lys
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His Lys Phe Leu Val Arg Trp Pro Pro Gly Leu Ala Glu Val Val Leu
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Ser Val Tyr His Ser Trp Arg Arg His Ser Thr Ser Leu Pro Asn Pro
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Leu Leu Arg Asp Cys Ser Asn Lys His Ile Lys Asp Met Met Leu Met
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Gly Arg Ser Ser Ala Val Ser Pro Arg Asn Cys Pro Ala Gly Met Val
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Asn Gly Arg Phe Gly Pro Asp Phe Pro Gly Thr His Cys Leu Gly Asp
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Leu Leu Gln Leu Ser Phe Ala Ser Ser Gln Arg Asp Leu Phe Glu Asp
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Gly Trp Leu Glu Phe Val Val Arg Val Tyr Trp Leu Lys Ala Arg Phe
    610                    615                    620
Leu Ala Leu Gln Gly Asp Met Glu Gln Ala Leu Glu Asn Tyr Asp Ile
625                    630                    635                    640
Cys Thr Glu Met Leu Gln Ser Ser Thr Ala Ile Gln Val Glu Ala Gly
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Ala Glu Arg Arg Asp Ile Val Ile Arg Leu Pro Asn Leu His Asn Asp
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Ser Val Val Ser Leu Glu Glu Ile Asp Lys Asn Leu Lys Ser Leu Glu
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Arg Cys Gln Ser Leu Glu Glu Ile Gln Arg Leu Tyr Glu Ala Gly Asp
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Tyr Lys Ala Val Val His Leu Leu Arg Pro Thr Leu Cys Thr Ser Gly
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Phe Asp Arg Ala Lys His Leu Glu Phe Met Thr Ser Ile Pro Glu Arg
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Pro Ala Gln Leu Leu Leu Leu Gln Asp Ser Leu Leu Arg Leu Lys Asp
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Tyr Arg Gln Cys Phe Glu Cys Ser Asp Val Ala Leu Asn Glu Ala Val
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Ala Thr Val Thr Gln Leu Leu Met Gly Ile Glu Gln Ala Leu Ser Ala
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Asp Ser Ser Gly Ser Ile Leu Lys Val Ser Ser Ser Thr Thr Gly Leu
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Val Arg Leu Thr Asn Asn Leu Ile Gln Val Ile Asp Cys Ser Met Ala
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Glu Tyr Leu Gly Arg Arg Ser Trp Cys Cys Asn Ser Asp Gly Ala Leu
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Leu Arg Phe Tyr Val Arg Val Leu Gln Lys Glu Leu Ala Ala Ser Thr
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Gln Cys Phe Tyr Cys Leu Tyr Ser Phe Pro Ser Lys Lys Ser Lys Ala
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Arg Tyr Leu Glu Glu His Ser Ala Gln Gln Val Asp Leu Ile Trp Glu
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Asp Ala Leu Phe Met Phe Glu Tyr Phe Lys Pro Lys Thr Leu Pro Glu
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Phe Asp Ser Tyr Lys Thr Ser Thr Val Ser Ala Asp Leu Ala Asn Leu
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Ser Leu Asp Lys Val Ser Ala Tyr Ile Glu Gly Thr Ser Thr Glu Val
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Leu His Ser Phe Ala Ser Arg Gln Leu Lys Gln Trp Arg Gly Glu Leu
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Pro Pro Glu Leu Val Gln Gln Met Glu Gly Arg Arg Asp Ser Met Leu
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Gln Gly Leu Phe Cys Glu Arg Asn Lys Thr Asn Phe Phe Asn Gly Ile
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aaaaaaaaaa aaaaaaaaaa aaaaaa
2546

<210> 4000
<211> 606
<212> PRT
<213> Homo sapiens

<400> 4000

```
Met Gly Leu Pro Val Gly Thr Ala Ala Ile Ala Pro Ile Ile Ala Ala
1               5                   10              15
Val Lys Asp Gly Lys Ser Ile Thr His Glu Gly Arg Glu Ile Leu Ala
            20                  25                  30
Glu Glu Leu Cys Thr Pro Pro Asp Pro Gly Ala Ala Phe Val Val Val
        35                  40                  45
Glu Cys Pro Asp Glu Ser Phe Ile Gln Pro Ile Cys Glu Asn Ala Thr
        50                  55                  60
Phe Gln Arg Tyr Gln Gly Lys Ala Asp Ala Pro Val Ala Leu Val Val
65                  70                  75                  80
His Met Ala Pro Ala Ser Val Leu Val Asp Ser Arg Tyr Gln Gln Trp
                85                  90                  95
Met Glu Arg Phe Gly Pro Asp Thr Gln His Leu Val Leu Asn Glu Asn
            100                 105                 110
Cys Ala Ser Val His Asn Leu Arg Ser His Lys Ile Gln Thr Gln Leu
        115                 120                 125
Asn Leu Ile His Pro Asp Ile Phe Pro Leu Leu Thr Ser Phe Arg Cys
    130                 135                 140
Lys Lys Glu Gly Pro Thr Leu Ser Val Pro Met Val Gln Gly Glu Cys
145                 150                 155                 160
Leu Leu Lys Tyr Gln Leu Arg Pro Arg Arg Glu Trp Gln Arg Asp Ala
                165                 170                 175
Ile Ile Thr Cys Asn Pro Glu Glu Phe Ile Val Glu Ala Leu Gln Leu
                180                 185                 190
Pro Asn Phe Gln Gln Ser Val Gln Glu Tyr Arg Arg Ser Ala Gln Asp
            195                 200                 205
Gly Pro Ala Pro Ala Glu Lys Arg Ser Gln Tyr Pro Glu Ile Ile Phe
    210                 215                 220
Leu Gly Thr Gly Ser Ala Ile Pro Met Lys Ile Arg Asn Val Ser Ala
225                 230                 235                 240
Thr Leu Val Asn Ile Ser Pro Asp Thr Ser Leu Leu Leu Asp Cys Gly
                245                 250                 255
Glu Gly Thr Phe Gly Gln Leu Cys Arg His Tyr Gly Asp Gln Val Asp
            260                 265                 270
Arg Val Leu Gly Thr Leu Ala Ala Val Phe Val Ser His Leu His Ala
    275                 280                 285
Asp His His Thr Gly Leu Pro Ser Ile Leu Leu Gln Arg Glu Arg Ala
    290                 295                 300
Leu Ala Ser Leu Gly Lys Pro Leu His Pro Leu Leu Val Val Ala Pro
305                 310                 315                 320
Asn Gln Leu Lys Ala Trp Leu Gln Gln Tyr His Asn Gln Cys Gln Glu
                325                 330                 335
Val Leu His His Ile Ser Met Ile Pro Ala Lys Cys Leu Gln Glu Gly
            340                 345                 350
Ala Glu Ile Ser Ser Pro Ala Val Glu Arg Leu Ile Ser Ser Leu Leu
    355                 360                 365
Arg Thr Cys Asp Leu Glu Glu Phe Gln Thr Cys Leu Val Arg His Cys
    370                 375                 380
Lys His Ala Phe Gly Cys Ala Leu Val His Thr Ser Gly Trp Lys Val
385                 390                 395                 400
Val Tyr Ser Gly Asp Thr Met Pro Cys Glu Ala Leu Val Arg Met Gly
            405                 410                 415
Lys Asp Ala Thr Leu Leu Ile His Glu Ala Thr Leu Glu Asp Gly Leu
```

```
            420                  425                  430
Glu Glu Glu Ala Val Glu Lys Thr His Ser Thr Thr Ser Gln Ala Ile
        435                  440                  445
Ser Val Gly Met Arg Met Asn Ala Glu Phe Ile Met Leu Asn His Phe
        450                  455                  460
Ser Gln Arg Tyr Ala Lys Val Pro Leu Phe Ser Pro Asn Phe Ser Glu
465                  470                  475                  480
Lys Val Gly Val Ala Phe Asp His Met Lys Val Cys Phe Gly Asp Phe
            485                  490                  495
Pro Thr Met Pro Lys Leu Ile Pro Pro Thr Glu Ser Pro Val Cys Trp
        500                  505                  510
Arg His Arg Gly Asp Gly Gly Ala Gln Gly Glu Ala Gly Ala Ala Ala
        515                  520                  525
Gly Ala Gly Gly Pro Pro Val Gln Gly Ala Gly Arg Arg Pro Gly Gly
        530                  535                  540
Trp Gly Ala Ser Ala Glu Ala Gly Pro His Arg Gly Ala Thr Gly Gln
545                  550                  555                  560
Glu Gly Gln Ser Pro Val Lys Ile Trp Glu Thr Leu Asn Ser Glu Gly
            565                  570                  575
Cys Val Ser Ser Ala Pro Arg Thr His Pro Tyr Leu Pro Ser Leu Leu
        580                  585                  590
Val Glu Ala Glu Glu His Gly Pro Pro Gly Gly Ser Ser Gly
        595                  600                  605
```

```
<210> 4001
<211> 1251
<212> DNA
<213> Homo sapiens
```

```
<400> 4001
gaaagccctg cttctcaggc tgggactcag caccctcctg cccagcccac tgcccattcc
60
cagagctctc cagagttcaa gggctccctg gcctccctct cagacagctt gggggtgtct
120
gtcatggcca ccgaccagga ctcctactcc accagcagca cggaggagga gctggagcag
180
ttcagcagcc ccagcgtgaa gaagaagccc tccatgatcc tgggcaaggc tcggcaccgg
240
ctgagctttg ccagtttcag cagcatgttc cacgctttcc tctccaacaa ccgcaagctg
300
tacaagaagg tggtggagct ggcgcaggac aagggctcgt actttggcag cctggtgcag
360
gactacaagg tgtacagcct ggagatgatg gcgcgccaga cctccagcac ggagatgctg
420
caggagattc gcaccatgat gacccagctc aagagctacc tgctgcagag caccgagctc
480
aaggccctgg tggaccccgc cctgcactcc gaggaggagc tcgaagcaat tgtagagtct
540
gccttgtaca aatgtgtcct gaagcccctg aaggaagcca tcaactcatg cctgcatcag
600
atccacagca aggatggttc gctgcagcag ctcaaggaga accagttagt gatcctggcc
660
accaccacca ctgacctagg tgtgaccacc agcgtgccgg aggtgcccat gatggagaag
720
```

```
atcctgcaga agttcaccag catgcacaag gcctactcac ctgagaagaa gatctccatc
780
ctgctcaaga cctgcaaact catctacgac tccatggccc tcggcaaccc agggaagccc
840
tatggggcgg atgacttcct gcctgtgctc atgtatgtgc tggcccgcag caacctcacg
900
gagatgcttc tcaatgtgga gtacatgatg gagctcatgg accccgccct gcagctgggg
960
gagggttcct actatctgac caccacctac ggggccctgg agcacatcaa gagctacgac
1020
aagatcacgg tgacccggca gctgagtgtg gaggtgcagg actccatcca ccgctgggag
1080
cgccggcgta ctctcaacaa ggcccgggcc tcccgctcct ccgtacagga cttcatctgc
1140
gtgtcgtacc tggagcccga gcagcaggcg cggacgctgg cgtcgcgggc ggacacccag
1200
gcccaggcgc tgtgcgcgca gtgcgcggag aagttcgcgg tggagcggcc g
1251


<210> 4002
<211> 417
<212> PRT
<213> Homo sapiens


<400> 4002
Glu Ser Pro Ala Ser Gln Ala Gly Thr Gln His Pro Pro Ala Gln Pro
1               5                   10                  15
Thr Ala His Ser Gln Ser Ser Pro Glu Phe Lys Gly Ser Leu Ala Ser
                20                  25                  30
Leu Ser Asp Ser Leu Gly Val Ser Val Met Ala Thr Asp Gln Asp Ser
            35                  40                  45
Tyr Ser Thr Ser Ser Thr Glu Glu Glu Leu Glu Gln Phe Ser Ser Pro
        50                  55                  60
Ser Val Lys Lys Lys Pro Ser Met Ile Leu Gly Lys Ala Arg His Arg
65                  70                  75                  80
Leu Ser Phe Ala Ser Phe Ser Ser Met Phe His Ala Phe Leu Ser Asn
                85                  90                  95
Asn Arg Lys Leu Tyr Lys Lys Val Val Glu Leu Ala Gln Asp Lys Gly
            100                 105                 110
Ser Tyr Phe Gly Ser Leu Val Gln Asp Tyr Lys Val Tyr Ser Leu Glu
        115                 120                 125
Met Met Ala Arg Gln Thr Ser Ser Thr Glu Met Leu Gln Glu Ile Arg
    130                 135                 140
Thr Met Met Thr Gln Leu Lys Ser Tyr Leu Leu Gln Ser Thr Glu Leu
145                 150                 155                 160
Lys Ala Leu Val Asp Pro Ala Leu His Ser Glu Glu Glu Leu Glu Ala
                165                 170                 175
Ile Val Glu Ser Ala Leu Tyr Lys Cys Val Leu Lys Pro Leu Lys Glu
            180                 185                 190
Ala Ile Asn Ser Cys Leu His Gln Ile His Ser Lys Asp Gly Ser Leu
            195                 200                 205
Gln Gln Leu Lys Glu Asn Gln Leu Val Ile Leu Ala Thr Thr Thr Thr
        210                 215                 220
Asp Leu Gly Val Thr Thr Ser Val Pro Glu Val Pro Met Met Glu Lys
```

```
225                 230                 235                 240
Ile Leu Gln Lys Phe Thr Ser Met His Lys Ala Tyr Ser Pro Glu Lys
                245                 250                 255
Lys Ile Ser Ile Leu Leu Lys Thr Cys Lys Leu Ile Tyr Asp Ser Met
                260                 265                 270
Ala Leu Gly Asn Pro Gly Lys Pro Tyr Gly Ala Asp Asp Phe Leu Pro
                275                 280                 285
Val Leu Met Tyr Val Leu Ala Arg Ser Asn Leu Thr Glu Met Leu Leu
            290                 295                 300
Asn Val Glu Tyr Met Met Glu Leu Met Asp Pro Ala Leu Gln Leu Gly
305                 310                 315                 320
Glu Gly Ser Tyr Tyr Leu Thr Thr Thr Tyr Gly Ala Leu Glu His Ile
                325                 330                 335
Lys Ser Tyr Asp Lys Ile Thr Val Thr Arg Gln Leu Ser Val Glu Val
                340                 345                 350
Gln Asp Ser Ile His Arg Trp Glu Arg Arg Arg Thr Leu Asn Lys Ala
                355                 360                 365
Arg Ala Ser Arg Ser Ser Val Gln Asp Phe Ile Cys Val Ser Tyr Leu
            370                 375                 380
Glu Pro Glu Gln Gln Ala Arg Thr Leu Ala Ser Arg Ala Asp Thr Gln
385                 390                 395                 400
Ala Gln Ala Leu Cys Ala Gln Cys Ala Glu Lys Phe Ala Val Glu Arg
                405                 410                 415
Pro
```

```
<210> 4003
<211> 581
<212> DNA
<213> Homo sapiens

<400> 4003
ngccggctcc gtcgcgggct gcgtggcgcc ttcctcatgg cgcgccagcg gccggagctg
60
ctctgcgggg ccgtggcgct cggctgcgcg ctgctcctcg ccctcaagtt cacctgcagt
120
cgagcaaaag atgtgataat accagcaaag ccacctgtca gctttttctc cttgaggtct
180
ccagtccttg acctcttcca ggggcagctg gattatgcag agtacgttcg acgggattca
240
gaggtggtac tgctcttctt ctatgcccct tggtgtggac agtccatcgc tgccagggca
300
gaaattgagc aagcagcaag tcggctttca gatcaggtgt tgtttgtggc aattaactgt
360
tggtggaacc aggggaaatg cagaaaacag aaacacttct tttattttcc tgtaatatat
420
ctgtatcatc ggagttttgg accaatcgaa tacaaaggcc cccatgagtg ctgtttacat
480
tgagaagttt gtccgccggg tgatgaaacc acttctctac atcccatctc aatcagaatt
540
actagatttt ctctcaaact acgagcctgg agtactcgcg a
581


<210> 4004
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<211> 160
<212> PRT
<213> Homo sapiens

<400> 4004
Xaa Arg Leu Arg Arg Gly Leu Arg Gly Ala Phe Leu Met Ala Arg Gln
 1   5   10   15
Arg Pro Glu Leu Leu Cys Gly Ala Val Ala Leu Gly Cys Ala Leu Leu
            20   25   30
Leu Ala Leu Lys Phe Thr Cys Ser Arg Ala Lys Asp Val Ile Ile Pro
        35   40   45
Ala Lys Pro Pro Val Ser Phe Phe Ser Leu Arg Ser Pro Val Leu Asp
    50   55   60
Leu Phe Gln Gly Gln Leu Asp Tyr Ala Glu Tyr Val Arg Arg Asp Ser
65   70   75   80
Glu Val Val Leu Leu Phe Phe Tyr Ala Pro Trp Cys Gly Gln Ser Ile
                85   90   95
Ala Ala Arg Ala Glu Ile Glu Gln Ala Ala Ser Arg Leu Ser Asp Gln
            100   105   110
Val Leu Phe Val Ala Ile Asn Cys Trp Trp Asn Gln Gly Lys Cys Arg
        115   120   125
Lys Gln Lys His Phe Phe Tyr Phe Pro Val Ile Tyr Leu Tyr His Arg
    130   135   140
Ser Phe Gly Pro Ile Glu Tyr Lys Gly Pro His Glu Cys Cys Leu His
145   150   155   160

<210> 4005
<211> 666
<212> DNA
<213> Homo sapiens

<400> 4005
ggtaccttgg aggatggtgc caagcagcac aatctaacag cagtcaatgt ccgaaacatc
60
cttcatgaag taatcacaaa tgaacacgtg gtagctatga tgaaagcagc catcagtgag
120
acggaagata tgccaatgtt tgagcctaaa atgacacgct ctaaactgaa ggaagtagtg
180
gaaaaaggaa tggtaattcc aacatggaat atttcaccaa ttaagaaggc caatgaaatt
240
aagcctcctc agtttgtgga tatccacctt gaagaagatg attcctcaga tgaagaatac
300
cagccggatg atgaagaaga agatgaaact gctgaagaga gcttattgga aagtgatgtt
360
gaaagcactg cttcatctcc acgtggggca aagaaatcca gattgaggca gtcttctgag
420
atgactgaaa cagatgagga gagtggcata ttatcagagg ctgagaaagt caccacacca
480
gccatcaggc acatcagtgc tgaggtagtg cccatggggc ccccgccccc tccaaagccg
540
aaacagacca gagatagtac tttcatggag aagttacatg cggtagatga ggagctggct
600
tccagtccag tctgcatgga ttctttccag cccatggatg acagtctcat tgcatttcga
660

acgcgt
666

<210> 4006
<211> 222
<212> PRT
<213> Homo sapiens

<400> 4006

```
Gly Thr Leu Glu Asp Gly Ala Lys Gln His Asn Leu Thr Ala Val Asn
 1               5                  10                  15
Val Arg Asn Ile Leu His Glu Val Ile Thr Asn Glu His Val Val Ala
                20                  25                  30
Met Met Lys Ala Ala Ile Ser Glu Thr Glu Asp Met Pro Met Phe Glu
            35                  40                  45
Pro Lys Met Thr Arg Ser Lys Leu Lys Glu Val Val Glu Lys Gly Met
    50                  55                  60
Val Ile Pro Thr Trp Asn Ile Ser Pro Ile Lys Lys Ala Asn Glu Ile
65                  70                  75                  80
Lys Pro Pro Gln Phe Val Asp Ile His Leu Glu Glu Asp Asp Ser Ser
                85                  90                  95
Asp Glu Glu Tyr Gln Pro Asp Asp Glu Glu Glu Asp Glu Thr Ala Glu
            100                 105                 110
Glu Ser Leu Leu Glu Ser Asp Val Glu Ser Thr Ala Ser Ser Pro Arg
        115                 120                 125
Gly Ala Lys Lys Ser Arg Leu Arg Gln Ser Ser Glu Met Thr Glu Thr
    130                 135                 140
Asp Glu Glu Ser Gly Ile Leu Ser Glu Ala Glu Lys Val Thr Thr Pro
145                 150                 155                 160
Ala Ile Arg His Ile Ser Ala Glu Val Val Pro Met Gly Pro Pro Pro
                165                 170                 175
Pro Pro Lys Pro Lys Gln Thr Arg Asp Ser Thr Phe Met Glu Lys Leu
            180                 185                 190
His Ala Val Asp Glu Glu Leu Ala Ser Ser Pro Val Cys Met Asp Ser
        195                 200                 205
Phe Gln Pro Met Asp Asp Ser Leu Ile Ala Phe Arg Thr Arg
    210                 215                 220
```

<210> 4007
<211> 2313
<212> DNA
<213> Homo sapiens

<400> 4007

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ngaattcttc cttggcttcg agtctctcag ccggccgcgc tctccgatgc ccagccctcc
60
tggaaccacc tcgcctgtga cgtaggtgga gcgcgcactg cctccgggcc cgtctttctc
120
aattgggacc ggaaaacgtt gtcgctcatc ctatgacgcg aaagtaaccg agactatcag
180
gatccggaga cggaaatgtc cgaaggccgc agtacttgac cctgtatttt gggagtcgaa
240
cggagaatgg aaactgaaag tggaaatcag gaaaaggtaa tggaagaaga aagcactgaa
300
```

```
aagaaaaaag aagttgaaaa aaagaaacgg tcacgagtta aacaggtgct tgcagatatt
360
gctaagcaag tggacttctg gtttggggat gcaaatcttc acaaggatag atttcttcga
420
gaacagatag aaaaatctag agatggatat gttgatatat cactacttgt gtcttttaac
480
aaaatgaaaa aattgactac tgatgggaag ttaattgcca gagcattgag aagttcagct
540
gttgtagagc ttgatttgga aggcaccaga atccggagga aaaaacctct gggggaaaga
600
ccaaaggatg aggatgaacg cacagtgtat gtggagttac ttcccaaaaa tgttaatcac
660
agctggattg aaagagtatt tgggaaatgt ggcaatgttg tttatataag tataccacat
720
tataagtcta ctggagatcc aaagggattt gcgtttgtgg aatttgaaac aaaagaacaa
780
gcagcaaaag caattgagtt tcttaacaac ccaccagaag aagcaccaag aaaacctggc
840
atatttccta aaacagtgaa aaataagccc attccagcct taagagttgt ggaagagaag
900
aaaaagaaaa agaagaagaa aggccgaatg aaaaaggaag acaatatcca agccaaagaa
960
gaaaacatgg acacaagcaa caccagcatc agtaaaatga aagatccag acccacatct
1020
gagggctctg acattgagtc cactgaaccc caaaagcagt gctcaaagaa aagaaaaaa
1080
cgggacagag ttgaagcatc tagcttacct gaagtcagaa cagggaagag gaagagaagc
1140
agctctgaag atgcagaatc cctagctccc cgatcaaaag taaagaaaat tattcagaaa
1200
gacatcatta aggaagcatc agaagcttcc aaggaaaata gagatataga aatctctact
1260
gaagaggaaa aggatactgg agatctaaaa gatagctctc tcttgaaaac aaaaaggaaa
1320
cataagaaaa aacataaaga gagacataaa atgggagaag aagttatacc attaagagtg
1380
ctatcaaaga gcgaatggat ggatttgaaa aaagagtatt tagcgctaca aaaagctagc
1440
atggcttctt taaaaaaaac aatatcccaa ataaaatcag agtcagaaat ggaaacagac
1500
agtggagtac ctcaaaacac tggaatgaaa aatgaaaaaa cagccaacag ggaagagtgt
1560
cgcacccagg agaaagttaa tgcaacagga ccacagttcg tgagtggagt gattgtgaag
1620
atcattagca cagagcctct acctggcagg aaacaagtcc gggatacttt ggcagcaatc
1680
tcagaagttc tttatgttga tttgctagaa ggggatacag aatgccatgc tagatttaaa
1740
actcctgagg atgctcaagc agtaataaat gcctatacag aaattaacaa gaaacactgc
1800
tggaaactcg agatcctttc tggtgatcac gaacaaaggt attggcagaa gattttggtt
1860
gatagacagg caaaacttaa tcagcctcgg gaaaagaaaa gaggcactga aaagttaatc
1920
```

accaaagctg aaaagattag actggcaaag actcaacaag cgagtaaaca tataagattt
1980
tctgaatatg attgaaaaaa aaaacagttc acctcttaat acttcacaag atacttgagc
2040
tgttcttggg agattcactt ttattatggt agcactgcat aattaatgtg tttttaatta
2100
aaagaaatat ctttgttcct taacttgtaa ataagacttt tttctagaga caaatatgat
2160
gtataccaca attttttctta aacattttat ttgttgaaat tatcttagat gtcagtgtca
2220
ggtgatttag taaataaatg tgttttgaac attaaaaaaa aaaaaaaaaa aaaaaaaaaa
2280
aaaaaaaaaa aaagaaaaaa aaaaaaaaaa aaa
2313

<210> 4008
<211> 290
<212> PRT
<213> Homo sapiens

<400> 4008
Gly Lys Arg Lys Arg Ser Ser Ser Glu Asp Ala Glu Ser Leu Ala Pro
 1   5   10   15
Arg Ser Lys Val Lys Lys Ile Ile Gln Lys Asp Ile Ile Lys Glu Ala
            20   25   30
Ser Glu Ala Ser Lys Glu Asn Arg Asp Ile Glu Ile Ser Thr Glu Glu
        35   40   45
Glu Lys Asp Thr Gly Asp Leu Lys Asp Ser Ser Leu Leu Lys Thr Lys
    50   55   60
Arg Lys His Lys Lys Lys His Lys Glu Arg His Lys Met Gly Glu Glu
65   70   75   80
Val Ile Pro Leu Arg Val Leu Ser Lys Ser Glu Trp Met Asp Leu Lys
                85   90   95
Lys Glu Tyr Leu Ala Leu Gln Lys Ala Ser Met Ala Ser Leu Lys Lys
            100   105   110
Thr Ile Ser Gln Ile Lys Ser Glu Ser Glu Met Glu Thr Asp Ser Gly
            115   120   125
Val Pro Gln Asn Thr Gly Met Lys Asn Glu Lys Thr Ala Asn Arg Glu
    130   135   140
Glu Cys Arg Thr Gln Glu Lys Val Asn Ala Thr Gly Pro Gln Phe Val
145   150   155   160
Ser Gly Val Ile Val Lys Ile Ile Ser Thr Glu Pro Leu Pro Gly Arg
                165   170   175
Lys Gln Val Arg Asp Thr Leu Ala Ala Ile Ser Glu Val Leu Tyr Val
            180   185   190
Asp Leu Leu Glu Gly Asp Thr Glu Cys His Ala Arg Phe Lys Thr Pro
            195   200   205
Glu Asp Ala Gln Ala Val Ile Asn Ala Tyr Thr Glu Ile Asn Lys Lys
    210   215   220
His Cys Trp Lys Leu Glu Ile Leu Ser Gly Asp His Glu Gln Arg Tyr
225   230   235   240
Trp Gln Lys Ile Leu Val Asp Arg Gln Ala Lys Leu Asn Gln Pro Arg
            245   250   255
Glu Lys Lys Arg Gly Thr Glu Lys Leu Ile Thr Lys Ala Glu Lys Ile

```
            260                265                 270
Arg Leu Ala Lys Thr Gln Gln Ala Ser Lys His Ile Arg Phe Ser Glu
        275                280                 285
Tyr Asp
    290
```

```
<210> 4009
<211> 675
<212> DNA
<213> Homo sapiens
```

```
<400> 4009
nnagatcttt cgcttgcctt ttgtccttcc tcttctttgg aaaacatgtc tgtccaagat
60
ccagcatcat cacccagtat acaagatggt ggtctaatgc aagcctctgt acccggtcct
120
tcagaagaac cagtagttta taatccaaca acagctgcct tcatctgtga ctcacttgtg
180
aatgaaaaaa ccataggcag tcctcctaat gagtttttact gttctgaaaa cacttctgtc
240
cctaacgaat ctaacaagat tcttgttaat aaagatgtac ctcagaaacc aggaggtgaa
300
accacacctt cagtaactga cttactaaat tattttttgg ctccagagat tcttactggt
360
gataaccaat attattgtga aaactgtgcc tctctgcaaa atgctgagaa aactatgcaa
420
atcacggagg aacctgaata ccttattctt actcctctga gattttcata tgatcagaag
480
tatcatgtga gaaggaaaat tttagacaat gtatcactgc cactggtttt ggagttgcca
540
gttaaaagaa ttacttcttt ctcttcattg tcagaaagtt ggtctgtaga tgttgacttc
600
actgatctta gtgagaacct tgctaaaaaa ttaaagcctt cagggactga tgaagcttcc
660
tgcacaaaat tggtg
675
```

```
<210> 4010
<211> 225
<212> PRT
<213> Homo sapiens
```

```
<400> 4010
Xaa Asp Leu Ser Leu Ala Phe Cys Pro Ser Ser Ser Leu Glu Asn Met
1               5               10                  15
Ser Val Gln Asp Pro Ala Ser Ser Pro Ser Ile Gln Asp Gly Gly Leu
            20                  25                  30
Met Gln Ala Ser Val Pro Gly Pro Ser Glu Glu Pro Val Val Tyr Asn
        35                  40                  45
Pro Thr Thr Ala Ala Phe Ile Cys Asp Ser Leu Val Asn Glu Lys Thr
    50                  55                  60
Ile Gly Ser Pro Pro Asn Glu Phe Tyr Cys Ser Glu Asn Thr Ser Val
65                  70                  75                  80
Pro Asn Glu Ser Asn Lys Ile Leu Val Asn Lys Asp Val Pro Gln Lys
```

```
                        85                   90                   95
Pro Gly Gly Glu Thr Thr Pro Ser Val Thr Asp Leu Leu Asn Tyr Phe
                   100              105                   110
Leu Ala Pro Glu Ile Leu Thr Gly Asp Asn Gln Tyr Tyr Cys Glu Asn
           115                  120                   125
Cys Ala Ser Leu Gln Asn Ala Glu Lys Thr Met Gln Ile Thr Glu Glu
       130                  135                   140
Pro Glu Tyr Leu Ile Leu Thr Leu Leu Arg Phe Ser Tyr Asp Gln Lys
   145                  150                   155                   160
Tyr His Val Arg Arg Lys Ile Leu Asp Asn Val Ser Leu Pro Leu Val
                   165                  170                   175
Leu Glu Leu Pro Val Lys Arg Ile Thr Ser Phe Ser Ser Leu Ser Glu
                   180                  185                   190
Ser Trp Ser Val Asp Val Asp Phe Thr Asp Leu Ser Glu Asn Leu Ala
           195                  200                   205
Lys Lys Leu Lys Pro Ser Gly Thr Asp Glu Ala Ser Cys Thr Lys Leu
       210                  215                   220
Val
225


<210> 4011
<211> 1371
<212> DNA
<213> Homo sapiens

<400> 4011
ctgcaggacg tggttccgac agtcaagatg gcgggagcag ctacccaggc ttccctggag
60
tcggccccac ggatcatgcg gctggtggcc gaatgcagcc gctccagggc ccgggcaggc
120
gagctgtggc tgccgcatgg gacagtggcc actcctgtgt tcatgccagt gggcacgcag
180
gccaccatga agggcatcac gaccgaacag ctggacgctc tgggttgccg catctgcctg
240
ggcaatacct accatctggg tctaaggccg ggacccgagc tgatccagaa agccaacggt
300
ctccacggct tcatgaattg gcctcataat ctgctaacgc tttgcggtgg ggtttccctt
360
gacagcggcg gtttccagat ggtgtcgctg gtgtctctgt ccgaggtgac ggaggagggc
420
gtccgcttcc gctccccta cgacggcaat gagaccctgc tgagcccgga gaaatccgtg
480
cagatccaga atgcgctggg ctcggacatc atcatgcagc tggacgacgt ggttagcagt
540
actgtgactg gccacgtgt ggaggaggcc atgtacaggt caatccgctg ctggaccgg
600
tgcattgcag cccatcagcg gccggacaag cagaacctct tcgccattat ccagggtggg
660
ctggacgcag atctccgggc cacctgcctt gaagagatga ccaagcgaga cgtgcctggc
720
ttcgccatcg ggggcctgag cggggggtgag agcaagtcgc agttctggcg gatggtggcg
780
ctgagcacct ctcggctgcc gaaggacaag ccccgatatc tgatgggggt tggctatgcc
840
```

3188

```
actgatctgg tagtctgcgt ggctcttgga tgtgacatgt tcgactgcgt cttccccaca
900
cggacagcgc gctttggctc tgccctggtg cccactggga acctgcagtt gaggaagaag
960
gtgtttgaga aggacttcgg ccccatagac ccggagtgca cctgccccac gtgccaaaag
1020
cacagccgcg ccttcctgca cgcactgctg cacagtgaca acacggccgc gctgcaccac
1080
ctcacggtcc acaacatcgc ctaccagctg cagctcatga gcgccgtccg caccagcatc
1140
gtggagaagc gcttcccgga cttcgtgcgg gacttcatgg gcgccatgta cggggatccc
1200
accctctgtc ccacctgggc cactgacgct ctggcctctg tgggaatcac actgggctga
1260
cctggcattg ggagagggag ggaggaagga agggagggag gggctggaag atactgaagg
1320
attccttttt gaaaggtttt ttttattgta aaaaaaaaaa aaaaaaaaaa a
1371
```

<210> 4012
<211> 419
<212> PRT
<213> Homo sapiens

<400> 4012
```
Leu Gln Asp Val Val Pro Thr Val Lys Met Ala Gly Ala Ala Thr Gln
1               5                   10                  15
Ala Ser Leu Glu Ser Ala Pro Arg Ile Met Arg Leu Val Ala Glu Cys
            20                  25                  30
Ser Arg Ser Arg Ala Arg Ala Gly Glu Leu Trp Leu Pro His Gly Thr
        35                  40                  45
Val Ala Thr Pro Val Phe Met Pro Val Gly Thr Gln Ala Thr Met Lys
    50                  55                  60
Gly Ile Thr Thr Glu Gln Leu Asp Ala Leu Gly Cys Arg Ile Cys Leu
65                  70                  75                  80
Gly Asn Thr Tyr His Leu Gly Leu Arg Pro Gly Pro Glu Leu Ile Gln
                85                  90                  95
Lys Ala Asn Gly Leu His Gly Phe Met Asn Trp Pro His Asn Leu Leu
                100                 105                 110
Thr Leu Cys Gly Gly Val Ser Leu Asp Ser Gly Gly Phe Gln Met Val
                115                 120                 125
Ser Leu Val Ser Leu Ser Glu Val Thr Glu Glu Gly Val Arg Phe Arg
            130                 135                 140
Ser Pro Tyr Asp Gly Asn Glu Thr Leu Leu Ser Pro Glu Lys Ser Val
145                 150                 155                 160
Gln Ile Gln Asn Ala Leu Gly Ser Asp Ile Ile Met Gln Leu Asp Asp
                165                 170                 175
Val Val Ser Ser Thr Val Thr Gly Pro Arg Val Glu Glu Ala Met Tyr
            180                 185                 190
Arg Ser Ile Arg Trp Leu Asp Arg Cys Ile Ala Ala His Gln Arg Pro
        195                 200                 205
Asp Lys Gln Asn Leu Phe Ala Ile Ile Gln Gly Gly Leu Asp Ala Asp
    210                 215                 220
Leu Arg Ala Thr Cys Leu Glu Glu Met Thr Lys Arg Asp Val Pro Gly
```

```
225                    230                    235                    240
Phe Ala Ile Gly Gly Leu Ser Gly Gly Glu Ser Lys Ser Gln Phe Trp
                245                    250                    255
Arg Met Val Ala Leu Ser Thr Ser Arg Leu Pro Lys Asp Lys Pro Arg
            260                    265                    270
Tyr Leu Met Gly Val Gly Tyr Ala Thr Asp Leu Val Val Cys Val Ala
        275                    280                    285
Leu Gly Cys Asp Met Phe Asp Cys Val Phe Pro Thr Arg Thr Ala Arg
    290                    295                    300
Phe Gly Ser Ala Leu Val Pro Thr Gly Asn Leu Gln Leu Arg Lys Lys
305                    310                    315                    320
Val Phe Glu Lys Asp Phe Gly Pro Ile Asp Pro Glu Cys Thr Cys Pro
                325                    330                    335
Thr Cys Gln Lys His Ser Arg Ala Phe Leu His Ala Leu Leu His Ser
            340                    345                    350
Asp Asn Thr Ala Ala Leu His His Leu Thr Val His Asn Ile Ala Tyr
        355                    360                    365
Gln Leu Gln Leu Met Ser Ala Val Arg Thr Ser Ile Val Glu Lys Arg
    370                    375                    380
Phe Pro Asp Phe Val Arg Asp Phe Met Gly Ala Met Tyr Gly Asp Pro
385                    390                    395                    400
Thr Leu Cys Pro Thr Trp Ala Thr Asp Ala Leu Ala Ser Val Gly Ile
                405                    410                    415
Thr Leu Gly
```

```
<210> 4013
<211> 1419
<212> DNA
<213> Homo sapiens

<400> 4013
nggatcccta tggtggaata taaactcgac agcgagggca ccccctgcga gtataaaacc
60
cccttcagga ggaacaccac gtggcaccgg gtgcccactc ctgccctgca gcccctctct
120
agagcttccc ccatccccgg cacgcccgac cggctgccgt gccaacagct gctccagcag
180
gcccaggctg ccattcctcg aagcacctcc ttcgaccgga agctgcccga tggcacgaga
240
agctcaccca gcaaccagtc atcctccagc gaccctggac ccggcgggag cggaccctgg
300
agaccacaag tgggctacga cgggtgccag tcccctctac tgctcgaaca ccagggctca
360
ggcccttgg aatgtgacgg agccagggag agggaagaca ccatggaagc aagcaggcac
420
ccggaaacca aatggcatgg cccaccttcc aaagtcctgg gttcctataa agaaagagct
480
ctgcagaaag atggaagttg caaagattcc cccaataagc tttctcacat tggggataaa
540
agttgctcca gtcactccag cagcaacacg ctctccagca cacctccag caacagtgac
600
gacaagcact ttgggtctgg cgacctgatg gaccccgaat tactggggct gacctacatc
660
```

```
aaaggggcct ccaccgacag tggcatcgac acggccccct gcatgcctgc caccatcctc
720
ggccctgtgc acctggcagg cagcaggtcc ctgatccaca gccgggccga gcagtgggct
780
gatgctgccg acgtctctgg gcctgacgac gagccagcca agttatattc tgtgcatggc
840
tacgcgtcca ccatctccgc cggcagtgct gcggaaggca gcatgggcga tctcagtgag
900
atatcctctc attccagtgg ttctcaccat tcaggaagcc cttcagctca ctgttcaaaa
960
agtagtgggt ctctggattc atccaaagtc tacatcgtgt ctcacagcag cggacaacag
1020
gttcccgggt ccatgtccaa gccctaccac agacaagggg cagtgaacaa atatgtcatc
1080
ggctggaaga aatcggaggg cagcccaccg cccgaggagc ctgaagtgac tgaatgtccc
1140
gggatgtata gtgagttgga tgtcatgtcc acagcaactc agcatcagac agtggtggga
1200
gatgctgttg cagagactca acatgttctg tctaaagaag attttctgaa attgatgctt
1260
cctgacagcc ccttagtgga ggaggggcga agaaagtttt cgttctatgg gaacctgtct
1320
ccaaggaggt cgctttaccg cacgctgtct gacgagagca tctgcagcaa caggaggggg
1380
tcctcctttg gcagttcccg gagttccgtg cttgaccag
1419
```

<210> 4014
<211> 473
<212> PRT
<213> Homo sapiens

<400> 4014
```
Xaa Ile Pro Met Val Glu Tyr Lys Leu Asp Ser Glu Gly Thr Pro Cys
1               5                   10                  15
Glu Tyr Lys Thr Pro Phe Arg Arg Asn Thr Thr Trp His Arg Val Pro
            20                  25                  30
Thr Pro Ala Leu Gln Pro Leu Ser Arg Ala Ser Pro Ile Pro Gly Thr
        35                  40                  45
Pro Asp Arg Leu Pro Cys Gln Gln Leu Leu Gln Gln Ala Gln Ala Ala
    50                  55                  60
Ile Pro Arg Ser Thr Ser Phe Asp Arg Lys Leu Pro Asp Gly Thr Arg
65                  70                  75                  80
Ser Ser Pro Ser Asn Gln Ser Ser Ser Asp Pro Gly Pro Gly Gly
                85                  90                  95
Ser Gly Pro Trp Arg Pro Gln Val Gly Tyr Asp Gly Cys Gln Ser Pro
            100                 105                 110
Leu Leu Leu Glu His Gln Gly Ser Gly Pro Leu Glu Cys Asp Gly Ala
        115                 120                 125
Arg Glu Arg Glu Asp Thr Met Glu Ala Ser Arg His Pro Glu Thr Lys
    130                 135                 140
Trp His Gly Pro Pro Ser Lys Val Leu Gly Ser Tyr Lys Glu Arg Ala
145                 150                 155                 160
Leu Gln Lys Asp Gly Ser Cys Lys Asp Ser Pro Asn Lys Leu Ser His
```

```
                        165                     170                     175
     Ile Gly Asp Lys Ser Cys Ser Ser His Ser Ser Ser Asn Thr Leu Ser
                180                     185                     190
     Ser Asn Thr Ser Ser Asn Ser Asp Asp Lys His Phe Gly Ser Gly Asp
                195                     200                     205
     Leu Met Asp Pro Glu Leu Leu Gly Leu Thr Tyr Ile Lys Gly Ala Ser
                210                     215                     220
     Thr Asp Ser Gly Ile Asp Thr Ala Pro Cys Met Pro Ala Thr Ile Leu
     225                     230                     235                     240
     Gly Pro Val His Leu Ala Gly Ser Arg Ser Leu Ile His Ser Arg Ala
                        245                     250                     255
     Glu Gln Trp Ala Asp Ala Ala Asp Val Ser Gly Pro Asp Asp Glu Pro
                260                     265                     270
     Ala Lys Leu Tyr Ser Val His Gly Tyr Ala Ser Thr Ile Ser Ala Gly
                275                     280                     285
     Ser Ala Ala Glu Gly Ser Met Gly Asp Leu Ser Glu Ile Ser Ser His
                290                     295                     300
     Ser Ser Gly Ser His His Ser Gly Ser Pro Ser Ala His Cys Ser Lys
     305                     310                     315                     320
     Ser Ser Gly Ser Leu Asp Ser Ser Lys Val Tyr Ile Val Ser His Ser
                        325                     330                     335
     Ser Gly Gln Gln Val Pro Gly Ser Met Ser Lys Pro Tyr His Arg Gln
                340                     345                     350
     Gly Ala Val Asn Lys Tyr Val Ile Gly Trp Lys Lys Ser Glu Gly Ser
                355                     360                     365
     Pro Pro Pro Glu Glu Pro Glu Val Thr Glu Cys Pro Gly Met Tyr Ser
                370                     375                     380
     Glu Leu Asp Val Met Ser Thr Ala Thr Gln His Gln Thr Val Val Gly
     385                     390                     395                     400
     Asp Ala Val Ala Glu Thr Gln His Val Leu Ser Lys Glu Asp Phe Leu
                        405                     410                     415
     Lys Leu Met Leu Pro Asp Ser Pro Leu Val Glu Glu Gly Arg Arg Lys
                420                     425                     430
     Phe Ser Phe Tyr Gly Asn Leu Ser Pro Arg Arg Ser Leu Tyr Arg Thr
                435                     440                     445
     Leu Ser Asp Glu Ser Ile Cys Ser Asn Arg Arg Gly Ser Ser Phe Gly
                450                     455                     460
     Ser Ser Arg Ser Ser Val Leu Asp Gln
     465                     470
```

```
<210> 4015
<211> 823
<212> DNA
<213> Homo sapiens

<400> 4015
cgcttcgaga agcagaagta cctttccacg ccggacagaa tagatcttgc tgagtccctg
60
ggcctgagcc agttgcaggt gaagacgtgg taccagaatc ggaggatgaa gtggaagaaa
120
atagtgctgc agggcggcgg cctggagtct cccaccaagc ccaaggggcg gcccaagaag
180
aactcaattc caacgagcga gcagcttact gagcaggagc gcgccaagga tgcagagaaa
240
```

```
cccgcggagg tgccgggcga gcccagcgac aggagccgcg aggactgagg gcggtatacg
300
gtgcggggcc tgggatgccc gcgccacccg cagcccctc actcggcgga aacccgcgag
360
ccggcccttc cgcgtccaag aagtttactt cctaagcctt ttattatgat cttgaatgcg
420
gacaattggg gccaaacgag gaaggacaca gacccaaaag ccagacccag gtcccagcgc
480
gcttctgggc tctaacctgg gagactcgca tccagcccgg cggaagctac agtctctacc
540
ctgagctccg tggcgcagag cgctccacgc gtattcacgc cccgctcctc gcctgcaccc
600
ccgccccgtc tggggcctgc cctcccggcc ggggagcctc caggcacaca cccgcttctg
660
gacgtcgggg acccagcggt tgggctcagc cacaacggcc tgagattgcc ccggggcaac
720
ccgtcggcat gcctggaggc cgggtccccg atgtcgctgg ggcccctacc ccctcgtgcg
780
aagacggtga cttttttttcc aataaaatat tttatgacac aaa
823
```

```
<210> 4016
<211> 95
<212> PRT
<213> Homo sapiens
```

```
<400> 4016
Arg Phe Glu Lys Gln Lys Tyr Leu Ser Thr Pro Asp Arg Ile Asp Leu
  1               5                  10                  15
Ala Glu Ser Leu Gly Leu Ser Gln Leu Gln Val Lys Thr Trp Tyr Gln
             20                  25                  30
Asn Arg Arg Met Lys Trp Lys Lys Ile Val Leu Gln Gly Gly Gly Leu
         35                  40                  45
Glu Ser Pro Thr Lys Pro Lys Gly Arg Pro Lys Lys Asn Ser Ile Pro
     50                  55                  60
Thr Ser Glu Gln Leu Thr Glu Gln Glu Arg Ala Lys Asp Ala Glu Lys
65                  70                  75                  80
Pro Ala Glu Val Pro Gly Glu Pro Ser Asp Arg Ser Arg Glu Asp
                 85                  90                  95
```

```
<210> 4017
<211> 1521
<212> DNA
<213> Homo sapiens
```

```
<400> 4017
nnactagggg attaccatga tgcagtagca gccatgctgc cctttcttgc tggccacgct
60
gggcaccgcc gccctcaata gcagcaaccc gaagactatt gctacagtgc ccggatccgc
120
agcaccgtcc tacagggcct gccctttggg ggcgtcccca ccgtgctggc cttggacttc
180
acgtgcttcc tcgccctgct gttcttattc tccatcctcc ggaaggtggc ctgggactat
240
```

```
gggcggctgg  ccttggtgac  agatgcagac  aggcttcggc  ggcaggagag  ggaccgagtg
300
gaacaggaat  atgtggcttc  agctatgcac  ggggacagcc  atgaccggta  tgagcgtctc
360
acctttgtct  ccagctccgt  tgactttgac  caaagggaca  atggtttctg  ttcctggctg
420
acagccatct  tcaggataaa  ggacgatgag  atccgggaca  agtgtggggg  cgacgctgtg
480
cactacctgt  cctttcagcg  gcacatcatc  gggctgctgg  tggttgtggg  cgtcctctcc
540
gtaggcatcg  tgctgcctgt  caacttctca  ggggacctgc  tggagaacaa  tgcctacagc
600
tttgggagaa  ccaccattgc  caacttgaaa  tcagggaaca  acctgctatg  gctgcacacc
660
tccttcgcct  tcctgtatct  gctgctcacc  gtctacagca  tgcgtagaca  cacctccaag
720
atgcgctaca  aggaggatga  tctggtgaag  cggaccctct  catcaatgg   aatctccaaa
780
tatgcagagt  cagaaaagat  caagaagcat  tttgaggaag  cctaccccaa  ctgcacagtt
840
ctcgaagccc  gcccgtgtta  caacgtggct  cgcctaatgt  tcctcgatgc  agagaggaag
900
aaggccgagc  ggggaaagct  gtacttcaca  aacctccaga  gcaaggagaa  cgtgcctacc
960
atgatcaacc  ccaagccctg  tggccacttc  tgctgctgtg  tggtgcgagg  ctgtgagcag
1020
gtggaggcca  ttgagtacta  cacaaagctg  gagcagaagc  tgaaggaaga  ctacaagcgg
1080
gagaagggga  aggtgaatga  gaagcctctt  ggcatggcct  ttgtcacctt  ccacaatgag
1140
actatcaccg  ccatcatcct  gaaggacttc  aacgtgtgta  aatgccaggg  ctgcacctgc
1200
cgtggggagc  cacgcccctc  atcctgcagc  gagtcccttc  acatccccaa  ctggaccggg
1260
tcctatgccc  ctgaccctca  gaacatctac  tgggagcacc  tctccatccg  aggcttcatc
1320
tggtggctgc  gctgcctggt  catcaatgtc  gtcctcttca  tcctcctctt  cttcctcacc
1380
actccagcca  tcatcatcac  caccatggac  aagttcaacg  tcaccaagcc  tgtggagtac
1440
ctcaacaacc  ccatcatcac  ccagttcttc  cccaccctgc  tgctgtggtg  cttctcggcc
1500
ctccttccca  ccattggcta  c
1521

<210> 4018
<211> 480
<212> PRT
<213> Homo sapiens

<400> 4018
Gln Gln Pro Glu Asp Tyr Cys Tyr Ser Ala Arg Ile Arg Ser Thr Val
1               5                  10                  15
Leu Gln Gly Leu Pro Phe Gly Gly Val Pro Thr Val Leu Ala Leu Asp
```

3194

```
                  20                    25                      30
Phe Thr Cys Phe Leu Ala Leu Leu Phe Leu Phe Ser Ile Leu Arg Lys
          35              40              45
Val Ala Trp Asp Tyr Gly Arg Leu Ala Leu Val Thr Asp Ala Asp Arg
      50              55              60
Leu Arg Arg Gln Glu Arg Asp Arg Val Glu Gln Glu Tyr Val Ala Ser
65              70              75              80
Ala Met His Gly Asp Ser His Asp Arg Tyr Glu Arg Leu Thr Phe Val
              85              90                      95
Ser Ser Ser Val Asp Phe Asp Gln Arg Asp Asn Gly Phe Cys Ser Trp
              100             105             110
Leu Thr Ala Ile Phe Arg Ile Lys Asp Asp Glu Ile Arg Asp Lys Cys
          115             120             125
Gly Gly Asp Ala Val His Tyr Leu Ser Phe Gln Arg His Ile Ile Gly
          130             135             140
Leu Leu Val Val Val Gly Val Leu Ser Val Gly Ile Val Leu Pro Val
145             150             155             160
Asn Phe Ser Gly Asp Leu Leu Glu Asn Asn Ala Tyr Ser Phe Gly Arg
              165             170             175
Thr Thr Ile Ala Asn Leu Lys Ser Gly Asn Asn Leu Leu Trp Leu His
          180             185             190
Thr Ser Phe Ala Phe Leu Tyr Leu Leu Leu Thr Val Tyr Ser Met Arg
          195             200             205
Arg His Thr Ser Lys Met Arg Tyr Lys Glu Asp Asp Leu Val Lys Arg
      210             215             220
Thr Leu Phe Ile Asn Gly Ile Ser Lys Tyr Ala Glu Ser Glu Lys Ile
225             230             235             240
Lys Lys His Phe Glu Glu Ala Tyr Pro Asn Cys Thr Val Leu Glu Ala
              245             250             255
Arg Pro Cys Tyr Asn Val Ala Arg Leu Met Phe Leu Asp Ala Glu Arg
          260             265             270
Lys Lys Ala Glu Arg Gly Lys Leu Tyr Phe Thr Asn Leu Gln Ser Lys
          275             280             285
Glu Asn Val Pro Thr Met Ile Asn Pro Lys Pro Cys Gly His Phe Cys
      290             295             300
Cys Cys Val Val Arg Gly Cys Glu Gln Val Glu Ala Ile Glu Tyr Tyr
305             310             315             320
Thr Lys Leu Glu Gln Lys Leu Lys Glu Asp Tyr Lys Arg Glu Lys Gly
              325             330             335
Lys Val Asn Glu Lys Pro Leu Gly Met Ala Phe Val Thr Phe His Asn
          340             345             350
Glu Thr Ile Thr Ala Ile Ile Leu Lys Asp Phe Asn Val Cys Lys Cys
          355             360             365
Gln Gly Cys Thr Cys Arg Gly Glu Pro Arg Pro Ser Ser Cys Ser Glu
          370             375             380
Ser Leu His Ile Pro Asn Trp Thr Gly Ser Tyr Ala Pro Asp Pro Gln
385             390             395             400
Asn Ile Tyr Trp Glu His Leu Ser Ile Arg Gly Phe Ile Trp Trp Leu
              405             410             415
Arg Cys Leu Val Ile Asn Val Val Leu Phe Ile Leu Leu Phe Phe Leu
          420             425             430
Thr Thr Pro Ala Ile Ile Ile Thr Thr Met Asp Lys Phe Asn Val Thr
          435             440             445
Lys Pro Val Glu Tyr Leu Asn Asn Pro Ile Ile Thr Gln Phe Phe Pro
```

3195

```
      450              455              460
Thr Leu Leu Leu Trp Cys Phe Ser Ala Leu Leu Pro Thr Ile Gly Tyr
465                   470              475              480
```

<210> 4019
<211> 2408
<212> DNA
<213> Homo sapiens

<400> 4019
cccgggggaa acgtcaccat cacttaaaga tatgctgggg ccagagcacc catgggccag
60
ggcttcctgc tctcctacag ccaagattgg ctgatgtgcc tacaggaaga gtttcagtgc
120
ctgaaccacc gctgtgtatc tgctgtccag cgctgtgatg gggttgatgc ctgtggcgat
180
ggctctgatg aagcaggttg cagctcagac cccttccctg cctgacccc aagacccgtc
240
ccctccctgc cttgcaatgt caccttggag gacttctatg gggtcttctc ctctcctgga
300
tatacacacc tagcctcagt ctcccacccc cagtcctgcc attggctgct gaccccat
360
gatggccggc ggctggccgt gcgcttcaca gccccggact tgggctttgg agatgcagtg
420
catgtgtatg acggccctgg ccccctgag agctcccgac tactgcgtag tctcacccac
480
ttcagcaatg gcaaggctgt cactgtggag acactgtctg ccaggctgt tgtgtcctac
540
cacacagttg cttggagcaa tggtcgtggc ttcaatgcca cctaccatgt gcggggctat
600
tgcttgcctt gggacagacc ctgtggctta ggctctggcc tgggagctgg cgaaggccta
660
ggtgagcgct gctacagtga ggcacagcgc tgtgacggct catgggactg tgctgacggc
720
acagatgagg aggactgccc aggctgccca cctggacact tcccctgtgg ggctgctggc
780
acctctggtg ccacagcctg ctacctacct gctgaccgct gcaactacca gactttctgt
840
gctgatggag cagatgagag acgctgtcgg cattgccagc ctggcaattt ccgatgccgg
900
gacgagaagt gcgtgtatga cgtgggtg tgcgatgggc agccagactg tgcggacggc
960
agtgatgagt gggactgctc ctatgttctg ccccgcaagg tcattacagc tgcagtcatt
1020
ggcagcctag tgtgcggcct gctcctggtc atcgccctgg ctgcacctg caagctctat
1080
gccattcgca cccaggagta cagcatcttt gccccctct cccggatgga ggctgagatt
1140
gtgcagcagc aggcacccccc ttcctacggg cagctcattg cccagggtgc catcccacct
1200
gtagaagact tcctacagA gaatcctaat gataactcag tgctgggcaa cctgcgttct
1260
ctgctacaga tcttacgcca ggatatgact ccaggaggtg gcccaggtgc ccgccgtcgt
1320
```

```
cagcggggcc gcttgatgcg acgcctggta cgccgtctcc gccgctgggg cttgctccct
1380
cgaaccaaca ccccggctcg ggcctctgag gccagatccc aggtcacacc ttctgctgct
1440
cccccttgagg ccctagatgg tggcacaggt ccagcccgtg agggcggggc agtgggtggg
1500
caagatgggg agcaggcacc cccactgccc atcaaggctc ccctcccatc tgctagcacg
1560
tctccagccc ccactactgt ccctgaagcc ccagggccac tgccctcact gcccctagag
1620
ccatcactat tgtctggagt ggtgcaggcc ctgcgaggcc gcctgttgcc cagcctgggg
1680
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1740
gaggacgatg tgctactggt gccactggct gagccggggg tgtgggtagc tgaggcagag
1800
gatgagccac tgcttacctg aggggacctg ggggctctac tgaggcctct cccctggggg
1860
ctctactcat agtggcacaa cctttttagag gtgggtcagc ctcccctcca ccacttcctt
1920
ccctgtccct ggatttcagg gacttggtgg gcctcccgtt gaccctatgt agctgctata
1980
aagttaagtg tccctcaggc agggagaggg ctcacagagt ctcctctgta cgtggccatg
2040
gccagacacc ccagtccctt caccaccacc tgctccccac gccaccacca tttgggtggc
2100
tgtttttaaa aagtaaagtt cttagaggat cataggtctg gacactccat ccttgccaaa
2160
cctctaccca aaagtggcct taagcaccgg aatgccaatt aactagagac cctccagccc
2220
ccaagggag gatttgggca gaacctgagg ttttgccatc cacaatccct cctacagggc
2280
ctggctcaca aaaagagtgc aacaaatgct tctattccat agctacggca ttgctcagta
2340
agttgaggtc aaaaataaag gaatcataca tctcaaaaaa aaaaaaaaaa aaaaaaaaaa
2400
aaaaaaaa
2408


<210> 4020
<211> 296
<212> PRT
<213> Homo sapiens


<400> 4020
Cys Asp Gly Gln Pro Asp Cys Ala Asp Gly Ser Asp Glu Trp Asp Cys
1               5                   10                  15
Ser Tyr Val Leu Pro Arg Lys Val Ile Thr Ala Ala Val Ile Gly Ser
                20                  25                  30
Leu Val Cys Gly Leu Leu Leu Val Ile Ala Leu Gly Cys Thr Cys Lys
            35                  40                  45
Leu Tyr Ala Ile Arg Thr Gln Glu Tyr Ser Ile Phe Ala Pro Leu Ser
        50                  55                  60
Arg Met Glu Ala Glu Ile Val Gln Gln Gln Ala Pro Pro Ser Tyr Gly
```

```
65                      70                      75                      80
Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp Phe Pro Thr
                        85                      90                      95
Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu Arg Ser Leu Leu
                100                     105                     110
Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly Gly Pro Gly Ala Arg
            115                     120                     125
Arg Arg Gln Arg Gly Arg Leu Met Arg Arg Leu Val Arg Arg Leu Arg
        130                     135                     140
Arg Trp Gly Leu Leu Pro Arg Thr Asn Thr Pro Ala Arg Ala Ser Glu
145                     150                     155                     160
Ala Arg Ser Gln Val Thr Pro Ser Ala Ala Pro Leu Glu Ala Leu Asp
                165                     170                     175
Gly Gly Thr Gly Pro Ala Arg Glu Gly Gly Ala Val Gly Gly Gln Asp
                180                     185                     190
Gly Glu Gln Ala Pro Pro Leu Pro Ile Lys Ala Pro Leu Pro Ser Ala
            195                     200                     205
Ser Thr Ser Pro Ala Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu
        210                     215                     220
Pro Ser Leu Pro Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala
225                     230                     235                     240
Leu Arg Gly Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg
                245                     250                     255
Ser Pro Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp
                260                     265                     270
Asp Val Leu Leu Val Pro Leu Ala Glu Pro Gly Val Trp Val Ala Glu
            275                     280                     285
Ala Glu Asp Glu Pro Leu Leu Thr
        290                     295
```

<210> 4021
<211> 4209
<212> DNA
<213> Homo sapiens

<400> 4021
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Lys Leu Val Met Leu Lys Glu Met Asp Lys Asp Leu Asn Ser Val Val
    50                  55                  60
Ile Ala Val Lys Leu Gln Gly Ser Lys Arg Ile Leu Arg Ser Asn Glu
65                  70                  75                  80
Ile Val Leu Pro Ala Ser Gly Leu Val Glu Thr Glu Leu Gln Leu Thr
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Phe Ser Leu Gln Tyr Pro His Phe Leu Lys Arg Asp Ala Asn Lys Leu
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Gln Ile Met Leu Gln Arg Arg Lys Arg Tyr Lys Asn Arg Thr Ile Leu
        115                 120                 125
Gly Tyr Lys Thr Leu Ala Val Gly Leu Ile Asn Met Ala Glu Val Met
    130                 135                 140
Gln His Pro Asn Glu Gly Ala Leu Val Leu Gly Leu His Ser Asn Val
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Lys Asp Val Ser Val Pro Val Ala Glu Ile Lys Ile Tyr Ser Leu Ser
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Ser Gln Pro Ile Asp His Glu Gly Ile Lys Ser Lys Leu Ser Asp Arg
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Ser Pro Asp Ile Asp Asn Tyr Ser Glu Glu Glu Glu Ser Phe Ser
        195                 200                 205
Ser Glu Gln Glu Gly Ser Asp Asp Pro Leu His Gly Gln Asp Leu Phe
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3201

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Pro Glu Met Glu Glu Thr Glu Ser Ile Leu Ser Thr Pro Lys Pro Lys
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Leu Lys Pro Phe Phe Glu Gly Met Ser Gln Ser Ser Ser Gln Thr Glu
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Ile Gly Ser Leu Asn Ser Lys Gly Ser Leu Gly Lys Asp Thr Thr Ser
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Pro Met Glu Leu Ala Ala Leu Glu Lys Ile Lys Ser Thr Trp Ile Lys
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Asn Gln Asp Asp Ser Leu Thr Glu Thr Asp Thr Leu Glu Ile Thr Asp
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Ser Pro Ser Lys Val Glu Gly Val His Thr Pro Arg Gln Lys Arg Ser
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Asn Ser Ser Asp Ser Glu Arg Ser Pro Asp Leu Gly His Ser Thr Gln
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Ser Gly Trp Arg Asp Leu Phe Ser Arg Ser Glu Pro Pro Val Ser Glu
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Ala Leu Ala Trp Lys Arg Asp Gly Ser Arg Leu Cys Val Gly Thr Leu
225                  230                  235                  240
Cys Gly Gly Val Glu Gln Phe Asp Cys Cys Leu Arg Arg Ser Ile Tyr
               245                  250                  255
Lys Asn Lys Phe Glu Leu Thr Tyr Val Gly Pro Ser Gln Val Ile Val
               260                  265                  270
Lys Asn Leu Ser Ser Gly Thr Arg Val Val Leu Lys Ser His Tyr Gly
               275                  280                  285
Tyr Glu Val Glu Glu Val Lys Ile Leu Gly Lys Glu Arg Tyr Leu Val
   290                  295                  300
Ala His Thr Ser Glu Thr Leu Leu Leu Gly Asp Leu Asn Thr Asn Arg
305                  310                  315                  320
Leu Ser Glu Ile Ala Trp Gln Gly Ser Gly Gly Asn Glu Lys Tyr Phe
               325                  330                  335
Phe Glu Asn Glu Asn Val Cys Met Ile Phe Asn Ala Gly Glu Leu Thr
               340                  345                  350
Leu Val Glu Tyr Gly Asn Asn Asp Thr Leu Gly Ser Val Arg Thr Glu
               355                  360                  365
Phe Met Asn Pro His Leu Ile Ser Val Arg Ile Asn Glu Arg Cys Gln
   370                  375                  380
Arg Gly Thr Glu Asp Asn Lys Lys Leu Ala Tyr Leu Ile Asp Ile Lys
385                  390                  395                  400
Thr Ile Ala Ile Val Asp Leu Ile Gly Gly Tyr Asn Ile Gly Thr Val
               405                  410                  415
Ser His Glu Ser Arg Val Asp Trp Leu Glu Leu Asn Glu Thr Gly His
               420                  425                  430
Lys Leu Leu Phe Arg Asp Arg Lys Leu Arg Leu His Leu Tyr Asp Ile
```

```
                 435                    440                    445
     Glu Ser Cys Ser Lys Thr Met Ile Leu Asn Phe Cys Ser Tyr Met Gln
         450                    455                    460
     Trp Val Pro Gly Ser Asp Val Leu Val Ala Gln Asn Arg Asn Ser Leu
     465                    470                    475                    480
     Cys Val Trp Tyr Asn Ile Glu Ala Pro Glu Arg Val Thr Met Phe Thr
                     485                    490                    495
     Ile Arg Gly Asp Val Ile Gly Leu Glu Arg Gly Gly Gly Lys Thr Glu
                 500                    505                    510
     Val Met Val Met Glu Gly Val Thr Thr Val Ala Tyr Thr Leu Asp Glu
                 515                    520                    525
     Gly Leu Ile Glu Phe Gly Thr Ala Ile Asp Asp Gly Asn Tyr Ile Arg
         530                    535                    540
     Ala Thr Ala Phe Leu Glu Thr Leu Glu Met Thr Pro Glu Thr Glu Ala
     545                    550                    555                    560
     Met Trp Lys Thr Leu Ser Lys Leu Ala Leu Glu Ala Arg Gln Leu His
                     565                    570                    575
     Ile Ala Glu Arg Cys Phe Ser Ala Leu Gly Gln Val Ala Lys Ala Arg
                 580                    585                    590
     Phe Leu His Glu Thr Asn Glu Ile Ala Asp Gln Val Ser Arg Glu Tyr
                 595                    600                    605
     Gly Gly Glu Gly Thr Asp Phe Tyr Gln Val Arg Ala Arg Leu Ala Met
         610                    615                    620
     Leu Glu Lys Asn Tyr Lys Leu Ala Glu Met Ile Phe Leu Glu Gln Asn
     625                    630                    635                    640
     Ala Val Glu Glu Ala Met Gly Met Tyr Gln Glu Leu His Arg Trp Asp
                     645                    650                    655
     Glu Cys Ile Ala Val Ala Glu Ala Lys Gly His Pro Ala Leu Glu Lys
                 660                    665                    670
     Leu Arg Arg Ser Tyr Tyr Gln Trp Leu Met Asp Thr Gln Gln Glu Glu
                 675                    680                    685
     Arg Ala Gly Glu Leu Gln Glu Ser Gln Gly Asp Gly Leu Ala Ala Ile
         690                    695                    700
     Ser Leu Tyr Leu Lys Ala Gly Leu Pro Ala Lys Ala Ala Arg Leu Val
     705                    710                    715                    720
     Leu Thr Arg Glu Glu Leu Leu Ala Asn Thr Glu Leu Val Glu His Ile
                     725                    730                    735
     Thr Ala Ala Leu Ile Lys Gly Glu Leu Tyr Glu Arg Ala Gly Asp Leu
                 740                    745                    750
     Phe Glu Lys Ile His Asn Pro Gln Lys Ala Leu Glu Cys Tyr Arg Lys
                 755                    760                    765
     Gly Asn Ala Phe Met Lys Ala Val Glu Leu Ala Arg Leu Ala Phe Pro
         770                    775                    780
     Val Glu Val Val Lys Leu Glu Glu Ala Trp Gly Asp His Leu Val Gln
     785                    790                    795                    800
     Gln Lys Gln Leu Asp Ala Ala Ile Asn His Tyr Ile Glu Ala Arg Cys
                     805                    810                    815
     Ser Ile Lys Ala Ile Glu Ala Ala Leu Gly Ala Arg Gln Trp Lys Lys
                 820                    825                    830
     Ala Ile Tyr Ile Leu Asp Leu Gln Asp Arg Asn Thr Ala Ser Lys Tyr
         835                    840                    845
     Tyr Pro Leu Val Ala Gln His Tyr Ala Ser Leu Gln Glu Tyr Glu Ile
         850                    855                    860
     Ala Glu Glu Leu Tyr Thr Lys Gly Asp Arg Thr Lys Asp Ala Ile Asp
```

```
865                 870                 875                 880
Met Tyr Thr Gln Ala Gly Arg Trp Glu Gln Ala His Lys Leu Ala Met
                885                 890                 895
Lys Cys Met Arg Pro Glu Asp Val Ser Val Leu Tyr Ile Thr Gln Ala
            900                 905                 910
Gln Glu Met Glu Lys Gln Gly Lys Tyr Arg Glu Ala Glu Arg Leu Tyr
        915                 920                 925
Val Thr Val Gln Glu Pro Asp Leu Ala Ile Thr Met Tyr Lys Lys His
        930                 935                 940
Lys Leu Tyr Asp Asp Met Ile Arg Leu Val Gly Lys His His Pro Asp
945                 950                 955                 960
Leu Leu Ser Asp Thr His Leu His Leu Gly Lys Glu Leu Glu Ala Glu
                965                 970                 975
Gly Arg Leu Gln Glu Ala Glu Tyr His Tyr Leu Glu Ala Gln Glu Trp
            980                 985                 990
Lys Ala Thr Val Asn Met Tyr Arg Ala Ser Gly Leu Trp Glu Glu Ala
        995                 1000                1005
Tyr Arg Val Ala Arg Thr Gln Gly Gly Ala Asn Ala His Lys His Val
    1010                1015                1020
Ala Tyr Leu Trp Ala Lys Ser Leu Gly Gly Glu Ala Ala Val Arg Leu
1025                1030                1035                1040
Leu Asn Lys Leu Gly Leu Leu Glu Ala Ala Val Asp His Ala Ala Asp
                1045                1050                1055
Asn Cys Ser Phe Glu Phe Ala Phe Glu Leu Ser Arg Leu Ala Leu Lys
                1060                1065                1070
His Lys Thr Pro Glu Val His Leu Lys Tyr Ala Met Phe Leu Glu Asp
            1075                1080                1085
Glu Gly Lys Phe Glu Glu Ala Glu Ala Glu Phe Ile Arg Ala Gly Lys
        1090                1095                1100
Pro Lys Glu Ala Val Leu Met Phe Val His Asn Gln Asp Trp Glu Ala
1105                1110                1115                1120
Ala Gln Arg Val Ala Glu Ala His Asp Pro Asp Ser Val Ala Glu Val
                1125                1130                1135
Leu Val Gly Gln Ala Arg Gly Ala Leu Glu Glu Lys Asp Phe Gln Lys
            1140                1145                1150
Ala Glu Gly Leu Leu Leu Arg Ala Gln Arg Pro Gly Leu Ala Leu Asn
            1155                1160                1165
Tyr Tyr Lys Glu Ala Gly Leu Trp Ser Asp Ala Leu Arg Ile Cys Lys
        1170                1175                1180
Asp Tyr Val Pro Ser Gln Leu Glu Ala Leu Gln Glu Glu Tyr Glu Arg
1185                1190                1195                1200
Glu Ala Thr Lys Lys Gly Ala Arg Gly Val Glu Gly Phe Val Glu Gln
            1205                1210                1215
Ala Arg His Trp Glu Gln Ala Gly Glu Tyr Ser Arg Ala Val Asp Cys
    1220                1225                1230
Tyr Leu Lys Val Arg Asp Ser Gly Asn Ser Gly Leu Ala Glu Lys Cys
        1235                1240                1245
Trp Met Lys Ala Ala Glu Leu Ser Ile Lys Phe Leu Pro Pro Gln Arg
    1250                1255                1260
Asn Met Glu Val Val Leu Ala Val Gly Pro Gln Leu Ile Gly Ile Gly
1265                1270                1275                1280
Lys His Ser Ala Ala Ala Glu Leu Tyr Leu Asn Leu Asp Leu Val Lys
                1285                1290                1295
Glu Ala Ile Asp Ala Phe Ile Glu Gly Glu Glu Trp Asn Lys Ala Lys
```

```
                  1300              1305              1310
      Arg Val Ala Lys Glu Leu Asp Pro Arg Tyr Glu Asp Tyr Val Asp Gln
          1315              1320              1325
      His Tyr Lys Glu Phe Leu Lys Asn Gln Gly Lys Val Asp Ser Leu Val
          1330              1335              1340
      Gly Val Asp Val Ile Ala Ala Leu Asp Leu Tyr Val Glu Gln Gly Gln
      1345              1350              1355              1360
      Trp Asp Lys Cys Ile Glu Thr Ala Thr Lys Gln Asn Tyr Lys Ile Leu
                  1365              1370              1375
      His Lys Tyr Val Ala Leu Tyr Ala Thr His Leu Ile Arg Glu Gly Ser
          1380              1385              1390
      Ser Ala Gln Ala Leu Ala Leu Tyr Val Gln His Gly Ala Pro Ala Asn
          1395              1400              1405
      Pro Gln Asn Phe Asn Ile Tyr Lys Arg Ile Phe Thr Asp Met Val Ser
          1410              1415              1420
      Ser Pro Gly Thr Asn Cys Ala Glu Ala Tyr His Ser Trp Ala Asp Leu
      1425              1430              1435              1440
      Arg Asp Val Leu Phe Asn Leu Ala Val Leu Ser Pro Ser Ser Ser Val
                  1445              1450              1455
      Lys Thr Trp Lys Ser Ser Glu Ala Asn Ser Pro Ala His Glu Glu Phe
                  1460              1465              1470
      Lys Thr Met Leu Leu Ile Ala His Tyr Tyr Ala Thr Arg Ser Ala Ala
          1475              1480              1485
      Gln Ser Val Lys Gln Leu Glu Thr Val Ala Ala Arg Leu Ser Val Ser
          1490              1495              1500
      Leu Leu Arg His Thr Gln Leu Leu Pro Val Asp Lys Ala Phe Tyr Glu
      1505              1510              1515              1520
      Ala Gly Ile Ala Ala Lys Ala Val Gly Trp Asp Asn Met Ala Phe Ile
                  1525              1530              1535
      Phe Leu Asn Arg Phe Leu Asp Leu Thr Asp Ala Ile Glu Glu Gly Thr
                  1540              1545              1550
      Leu Asp Gly Leu Asp His Ser Asp Phe Gln Asp Thr Asp Ile Pro Phe
                  1555              1560              1565
      Glu Val Pro Leu Pro Ala Lys Gln His Val Pro Glu Ala Glu Arg Glu
          1570              1575              1580
      Glu Val Arg Asp Trp Val Leu Thr Val Ser Met Asp Gln Arg Leu Glu
      1585              1590              1595              1600
      Gln Val Leu Pro Arg Asp Glu Arg Gly Ala Tyr Glu Ala Ser Leu Val
                  1605              1610              1615
      Ala Ala Ser Thr Gly Val Arg Ala Leu Pro Cys Leu Ile Thr Gly Tyr
                  1620              1625              1630
      Pro Ile Leu Arg Asn Lys Ile Glu Phe Lys Arg Pro Gly Lys Ala Ala
          1635              1640              1645
      Asn Lys Asp Asn Trp Asn Lys Phe Leu Met Ala Ile Lys Thr Ser His
          1650              1655              1660
      Ser Pro Val Cys Gln Asp Val Leu Lys Phe Ile Ser Gln Trp Cys Gly
      1665              1670              1675              1680
      Gly Leu Pro Ser Thr Ser Phe Ser Phe Gln
                  1685              1690
```

<210> 4025
<211> 908
<212> DNA
<213> Homo sapiens

<400> 4025
ttaagaactc acactggann gaaaccctat gaatgcaatc actgtgggaa agcatttagt
60
gatccctcat cccttagact gcatttgaga attcacactg gagaaaaacc ctatgaatgt
120
aaccagtgtt ttcacgtttt ccgcaccagt tgtaacctta aaagccacaa gaggattcac
180
acgggggaga atcaccatga atgtaatcag tgtggaaaag ctttcagcac aaggtcctct
240
ctcactgggc acaattgcat tcatacaggg gagaaacctt atgaatgtaa ggaatgtggg
300
aaaacctttta tgtataattc atcccttatt caacatctga gaactcatac tggagagaaa
360
ccctatgaat gtaaggagtg tgggaaagcc tttaggcaac attcacacct tgtcacacac
420
cagaaaatcc atactggaga gaagccctat cagtgcactg aatgtgggaa agccttcagg
480
cggcgttcac tccttattca acatcggaga attcatagtg gtgagaagcc ctatgaatgt
540
aaggaatgtg ggaagctctt catttggcgc acagctttcc tcaaacatca gagcctgcat
600
gctggagaga aacttgaaga atgtgagaaa nnaccttcag caaggatgag gagcttaggg
660
gagnagcaga aaattcacca agaagagaaa gcttattggt gtaatcagtg tggtagggct
720
ttccagggca gctcagacct catcggacat caggtaactc atacaggaga gaaaccatat
780
gaatgtaaag aatgtggana actttcaat cagagctcag accttctgag acatcataga
840
attcacagtg gagaaaaacc ttatgtatgc aacaaatgtg ggaaatcttt tagggggcagc
900
tcagatct
908

<210> 4026
<211> 302
<212> PRT
<213> Homo sapiens

<400> 4026
Leu Arg Thr His Thr Gly Xaa Lys Pro Tyr Glu Cys Asn His Cys Gly
1   5   10   15
Lys Ala Phe Ser Asp Pro Ser Ser Leu Arg Leu His Leu Arg Ile His
            20   25   30
Thr Gly Glu Lys Pro Tyr Glu Cys Asn Gln Cys Phe His Val Phe Arg
        35   40   45
Thr Ser Cys Asn Leu Lys Ser His Lys Arg Ile His Thr Gly Glu Asn
    50   55   60
His His Glu Cys Asn Gln Cys Gly Lys Ala Phe Ser Thr Arg Ser Ser
65   70   75   80
Leu Thr Gly His Asn Cys Ile His Thr Gly Glu Lys Pro Tyr Glu Cys
                85   90   95
Lys Glu Cys Gly Lys Thr Phe Met Tyr Asn Ser Ser Leu Ile Gln His

3211

```
                    100                    105                    110
     Leu Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Gly
             115                    120                    125
     Lys Ala Phe Arg Gln His Ser His Leu Val Thr His Gln Lys Ile His
         130                    135                    140
     Thr Gly Glu Lys Pro Tyr Gln Cys Thr Glu Cys Gly Lys Ala Phe Arg
     145                    150                    155                    160
     Arg Arg Ser Leu Leu Ile Gln His Arg Arg Ile His Ser Gly Glu Lys
                     165                    170                    175
     Pro Tyr Glu Cys Lys Glu Cys Gly Lys Leu Phe Ile Trp Arg Thr Ala
                 180                    185                    190
     Phe Leu Lys His Gln Ser Leu His Ala Gly Glu Lys Leu Glu Glu Cys
                 195                    200                    205
     Glu Lys Xaa Pro Ser Ala Arg Met Arg Ser Leu Gly Glu Xaa Gln Lys
         210                    215                    220
     Ile His Gln Glu Glu Lys Ala Tyr Trp Cys Asn Gln Cys Gly Arg Ala
     225                    230                    235                    240
     Phe Gln Gly Ser Ser Asp Leu Ile Gly His Gln Val Thr His Thr Gly
                     245                    250                    255
     Glu Lys Pro Tyr Glu Cys Lys Glu Cys Gly Xaa Thr Phe Asn Gln Ser
                 260                    265                    270
     Ser Asp Leu Leu Arg His His Arg Ile His Ser Gly Glu Lys Pro Tyr
             275                    280                    285
     Val Cys Asn Lys Cys Gly Lys Ser Phe Arg Gly Ser Ser Asp
         290                    295                    300
```

<210> 4027
<211> 941
<212> DNA
<213> Homo sapiens

<400> 4027

```
gcgcgccagg gaacctatat ctgtgaaatc cgcctcaaag gggagagcca ggtgttcaag
60
aaggcggtgg tactgcatgt gcttccagag gagcccaaag agctcatggt ccatgtgggt
120
ggattgattc agatgggatg tgttttccag agcacagaag tgaaacacgt gaccaaggta
180
gaatggatat tttcaggacg gcgcgcaaag gaggagattg tatttcgtta ctaccacaaa
240
ctcaggatgt ctgcggagta ctcccagagc tggggccact tccagaatcg tgtgaacctg
300
gtgggggaca ttttccgcaa tgacggttcc atcatgcttc aaggagtgag ggagtcagat
360
ggaggaaact acacctgcag tatccaccta gggaacctgg tgttcaagaa aaccattgtg
420
ctgcatgtca gcccggaaga gcctcgaaca ctggtgaccc cggcagccct gaggcctctg
480
gtcttgggtg gtaatcagtt ggtgatcatt gtgggaattg tctgtgccac aatcctgctg
540
ctccctgttc tgatattgat cgtgaagaag acctgtggaa ataagagttc agtgaattct
600
acagtcttgg tgaagaacac gaagaagact aatccagaga tgaaagaaaa accctgccat
660
```

3212

```
tttgaaagat gtgaagggga ggtgaacaca cgcttcagcc taaaacacta agtagatgca
720
ggcctgggcc gttctcatac ccccgggaac catatcttac ccattgtatg tcgcagcttg
780
caggccagtg cttggcacag agcagggact caggaagcct ttgtcactaa agtaagagcc
840
tctgcggagt acagtgcatg gggtcggctg ggacacccce aggcagcaga tcctggtatt
900
gggctgagga aagagcactg cgcttggagt cagtaagatc t
941
```

<210> 4028
<211> 236
<212> PRT
<213> Homo sapiens

<400> 4028
Ala Arg Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu Lys Gly Glu Ser
  1   5   10   15
Gln Val Phe Lys Lys Ala Val Val Leu His Val Leu Pro Glu Glu Pro
            20   25   30
Lys Glu Leu Met Val His Val Gly Gly Leu Ile Gln Met Gly Cys Val
            35   40   45
Phe Gln Ser Thr Glu Val Lys His Val Thr Lys Val Glu Trp Ile Phe
        50   55   60
Ser Gly Arg Arg Ala Lys Glu Glu Ile Val Phe Arg Tyr Tyr His Lys
65   70   75   80
Leu Arg Met Ser Ala Glu Tyr Ser Gln Ser Trp Gly His Phe Gln Asn
                85   90   95
Arg Val Asn Leu Val Gly Asp Ile Phe Arg Asn Asp Gly Ser Ile Met
            100   105   110
Leu Gln Gly Val Arg Glu Ser Asp Gly Gly Asn Tyr Thr Cys Ser Ile
            115   120   125
His Leu Gly Asn Leu Val Phe Lys Lys Thr Ile Val Leu His Val Ser
            130   135   140
Pro Glu Glu Pro Arg Thr Leu Val Thr Pro Ala Ala Leu Arg Pro Leu
145   150   155   160
Val Leu Gly Gly Asn Gln Leu Val Ile Ile Val Gly Ile Val Cys Ala
                165   170   175
Thr Ile Leu Leu Leu Pro Val Leu Ile Leu Ile Val Lys Lys Thr Cys
                180   185   190
Gly Asn Lys Ser Ser Val Asn Ser Thr Val Leu Val Lys Asn Thr Lys
            195   200   205
Lys Thr Asn Pro Glu Met Lys Glu Lys Pro Cys His Phe Glu Arg Cys
            210   215   220
Glu Gly Glu Val Asn Thr Arg Phe Ser Leu Lys His
225   230   235

<210> 4029
<211> 909
<212> DNA
<213> Homo sapiens

<400> 4029

                                3213
```

cggccgcctg ttttgggtgg cgctggacct gctggacctg ctggacatgc aggccagcct
60
gtgggagccg ccgcgctccg ggctgccgct gtgggccgag ggcctcacct tcttctactg
120
ctacatgctg ctgctggtgc tgccgtgcgt ggcgctcagc gaggtcagca tgcagggcga
180
gcacatagcg ccgcagaaga tgatgctgta cccggtgctc agtctcgcca ccgtcaatgt
240
ggtgggccgt gctggcgcgc gccgccaaca tggcgctgtt ccgggacagc cgtgtctcgg
300
ccatcttcgt cggcaaaaac gtggtggcgc tcgccaccaa ggcctgcacc tnntcctgga
360
gtaccgccgc caggtgcgcg acttcccnng ccgcctgcgc tatcactgga gctgcagccg
420
ccaccccgc agcgcaactc ggtgccgccg ccgccgccgc cgctgcacgg cccgcctggg
480
ncgcccccac atgtcctcgc ccacgcgtga cccctggac acgtgacagg gcccgcgcgg
540
cccccgacac gcccctgggg cgcagagaca ccgggttggc ttggggcgcg cggtttgcat
600
gggatggggt ggggcggggc tcccctaggg acaggtgcct cgagtgcccg tgcctggggt
660
cccgcggccg cttcttcatc tcaggaatct ctcggaccgc ggatcctcag cccccgctcc
720
accagcccgc cccagcgcgt gggtctgttt gggaggcctg ggccggagca gagcagaggt
780
gatccggccc ctgcctgctg ggccgcccgg gttggaaggg agggcagtgt gggcggagat
840
ctgctccttc ggtgggggcc tctggctcag atttggggcc aaggaggcct ctgtcatttt
900
aaagactcg
909


<210> 4030
<211> 169
<212> PRT
<213> Homo sapiens

<400> 4030
Arg Pro Pro Val Leu Gly Gly Ala Gly Pro Ala Gly Pro Ala Gly His
1               5                   10                  15
Ala Gly Gln Pro Val Gly Ala Ala Ala Leu Arg Ala Ala Ala Val Gly
                20                  25                  30
Arg Gly Pro His Leu Leu Leu Leu Leu His Ala Ala Ala Gly Ala Ala
            35                  40                  45
Val Arg Gly Ala Gln Arg Gly Gln His Ala Gly Arg Ala His Ser Ala
        50                  55                  60
Ala Glu Asp Asp Ala Val Pro Gly Ala Gln Ser Arg His Arg Gln Cys
65                  70                  75                  80
Gly Gly Pro Cys Trp Arg Ala Pro Pro Thr Trp Arg Cys Ser Gly Thr
                85                  90                  95
Ala Val Ser Arg Pro Ser Ser Ser Ala Lys Thr Trp Trp Arg Ser Pro
                100                 105                 110
Pro Arg Pro Ala Pro Xaa Pro Gly Val Pro Pro Pro Gly Ala Arg Leu


3214

```
          115                    120                    125
Pro Xaa Pro Pro Ala Leu Ser Leu Glu Leu Gln Pro Pro Pro Pro Gln
      130                    135                    140
Arg Asn Ser Val Pro Pro Pro Pro Pro Pro Leu His Gly Pro Pro Gly
145                    150                    155                    160
Xaa Pro Pro His Val Leu Ala His Ala
                  165
```

<210> 4031
<211> 1406
<212> DNA
<213> Homo sapiens

<400> 4031
naagctgaga acgcatcttt agctaaactt cgcattgaac gagaaagtgc cttggaaaaa
60
ctcaggaaag aaattgcagg cttcgaacaa cagaaagcaa aagaattagc tcgaatagaa
120
gagtttaaaa aggaggagat gaggaagcta caaaaggaac gtaaagtttt tgaaaagtat
180
actacagctg caagaacttt tccagataaa aaggaacgtg aagaaataca gactttaaaa
240
cagcaaatag cagatttacg ggaagatttg aaaagaaagg agaccaaatg gtcaagtaca
300
cacagccgtc tcagaagcca gatacaaatg ttagtcagag agaacacaga cctccgggaa
360
gaaataaaag tgatggaaag attccgactg gatgcctgga agagagcaga agccatagag
420
agcagcctcg aggtggagaa gaaggacaag cttgcgaaca catctgttcg atttcaaaac
480
agtcagattt cttcaggaac ccaggtagaa aaatacaaga aaaattatct tccaatgcaa
540
ggcaatccac ctcgaagatc caagtctgca cctcctcgtg atttaggcaa tttggataag
600
ggacaggctg cctctcccag ggagccactt gaaccactga acttcccaga tcctgaatat
660
aaagaggagg aggaagacca agacatacag ggagaaatca gtcatcctga tggaaaggtg
720
gaaaaggttt ataagaatgg gtgccgtgtt atactgtttc ccaatggaac tcgaaaggaa
780
gtgagtgcag atgggaagac catcactgtc actttctttа atggtgacgt gaagcaggtc
840
atgccagacc aaagagtgat ctactactat gcagctgccc agaccactca cacgacatac
900
ccggagggac tggaagtctt acatttctca agtggacaaa tagaaaaaca ttacccagat
960
ggaagaaaag aaatcacgtt tcctgaccag actgttaaaa acttatttcc tgatggacaa
1020
gaagaaagca ttttcccaga tggtacaatt gtcagagtac aacgtgatgg caacaaactc
1080
atagagttta ataatggcca aagagaacta catactgccc agttcaagag acgggaatac
1140
ccagatggca ctgttaaaac cgtatatgca aacggtcatc aagaaacgaa gtacagatcc
1200
```

```
ggtcggataa gagttaagga caaggagggt aatgtgctaa tggacacgga gctgtgacga
1260
tcctcatgtg atcatgaagt aacagtaact gactttttat gttaaaaaat gtacatttac
1320
tgtggattct gtttaattta ttgtgtatgt gtggggaaaa gattggattc taaaataaaa
1380
gtttaccctg tggcaaaaaa aaaaaa
1406
```

```
<210> 4032
<211> 418
<212> PRT
<213> Homo sapiens
```

```
<400> 4032
Xaa Ala Glu Asn Ala Ser Leu Ala Lys Leu Arg Ile Glu Arg Glu Ser
1               5                   10                  15
Ala Leu Glu Lys Leu Arg Lys Glu Ile Ala Gly Phe Glu Gln Gln Lys
            20                  25                  30
Ala Lys Glu Leu Ala Arg Ile Glu Glu Phe Lys Lys Glu Glu Met Arg
        35                  40                  45
Lys Leu Gln Lys Glu Arg Lys Val Phe Glu Lys Tyr Thr Thr Ala Ala
    50                  55                  60
Arg Thr Phe Pro Asp Lys Lys Glu Arg Glu Glu Ile Gln Thr Leu Lys
65                  70                  75                  80
Gln Gln Ile Ala Asp Leu Arg Glu Asp Leu Lys Arg Lys Glu Thr Lys
            85                  90                  95
Trp Ser Ser Thr His Ser Arg Leu Arg Ser Gln Ile Gln Met Leu Val
            100                 105                 110
Arg Glu Asn Thr Asp Leu Arg Glu Glu Ile Lys Val Met Glu Arg Phe
        115                 120                 125
Arg Leu Asp Ala Trp Lys Arg Ala Glu Ala Ile Glu Ser Ser Leu Glu
    130                 135                 140
Val Glu Lys Lys Asp Lys Leu Ala Asn Thr Ser Val Arg Phe Gln Asn
145                 150                 155                 160
Ser Gln Ile Ser Ser Gly Thr Gln Val Glu Lys Tyr Lys Lys Asn Tyr
            165                 170                 175
Leu Pro Met Gln Gly Asn Pro Pro Arg Arg Ser Lys Ser Ala Pro Pro
            180                 185                 190
Arg Asp Leu Gly Asn Leu Asp Lys Gly Gln Ala Ala Ser Pro Arg Glu
        195                 200                 205
Pro Leu Glu Pro Leu Asn Phe Pro Asp Pro Glu Tyr Lys Glu Glu Glu
        210                 215                 220
Glu Asp Gln Asp Ile Gln Gly Glu Ile Ser His Pro Asp Gly Lys Val
225                 230                 235                 240
Glu Lys Val Tyr Lys Asn Gly Cys Arg Val Ile Leu Phe Pro Asn Gly
            245                 250                 255
Thr Arg Lys Glu Val Ser Ala Asp Gly Lys Thr Ile Thr Val Thr Phe
            260                 265                 270
Phe Asn Gly Asp Val Lys Gln Val Met Pro Asp Gln Arg Val Ile Tyr
        275                 280                 285
Tyr Tyr Ala Ala Ala Gln Thr Thr His Thr Thr Tyr Pro Glu Gly Leu
    290                 295                 300
Glu Val Leu His Phe Ser Ser Gly Gln Ile Glu Lys His Tyr Pro Asp
```

```
    305                   310                   315                   320
Gly Arg Lys Glu Ile Thr Phe Pro Asp Gln Thr Val Lys Asn Leu Phe
                    325                   330                   335
Pro Asp Gly Gln Glu Glu Ser Ile Phe Pro Asp Gly Thr Ile Val Arg
                340                   345                   350
Val Gln Arg Asp Gly Asn Lys Leu Ile Glu Phe Asn Asn Gly Gln Arg
            355                   360                   365
Glu Leu His Thr Ala Gln Phe Lys Arg Arg Glu Tyr Pro Asp Gly Thr
        370                   375                   380
Val Lys Thr Val Tyr Ala Asn Gly His Gln Glu Thr Lys Tyr Arg Ser
385                   390                   395                   400
Gly Arg Ile Arg Val Lys Asp Lys Glu Gly Asn Val Leu Met Asp Thr
                405                   410                   415
Glu Leu
```

```
<210> 4033
<211> 487
<212> DNA
<213> Homo sapiens
```

```
<400> 4033
acgcgtgaag ggacaacttc gcagagttcg gctactgctg acgcgcaggg agtaagcctc
60
gggttttgat gggatagcag acaggtggat tgcagagctc cggaaagacc cagccgggtg
120
tcaagaagag ccctcctagt ttggcctcta actggctgtg cgaccccagg caggtcactt
180
gtcctctctg ggaagcagct gaataatgaa cactgggatt ttcccaggct ggcttctcac
240
tgcagagcag aggaaaagca ttctgggggc ctgctatgga gggtcattta tccagtttac
300
aacttccacg gccggccctc aatggcttcc tttctctccc acaagagcgc tgggccaagc
360
cagctctgca ccagttggac gccttccaag aaaaactcag gctccggggg ctgcttgtca
420
ggaccagacg ggaggcctgg cgcccccgcc cgccatgtgt ggggagcggg cctctccaag
480
ccagtcc
487
```

```
<210> 4034
<211> 94
<212> PRT
<213> Homo sapiens
```

```
<400> 4034
Met Asn Thr Gly Ile Phe Pro Gly Trp Leu Leu Thr Ala Glu Gln Arg
1               5                   10                  15
Lys Ser Ile Leu Gly Ala Cys Tyr Gly Gly Ser Phe Ile Gln Phe Thr
                20                  25                  30
Thr Ser Thr Ala Gly Pro Gln Trp Leu Pro Phe Ser Pro Thr Arg Ala
            35                  40                  45
Leu Gly Gln Ala Ser Ser Ala Pro Val Gly Arg Leu Pro Arg Lys Thr
```

```
        50                      55                      60
Gln Ala Pro Gly Ala Ala Cys Gln Asp Gln Thr Gly Gly Leu Ala Pro
65            .       .       70                      75                      80
Pro Pro Ala Met Cys Gly Glu Arg Ala Ser Pro Ser Gln Ser
                .   85                      90
```

<210> 4035
<211> 343
<212> DNA
<213> Homo sapiens

<400> 4035

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nnncttaata gcagtgttat ggaattccat gtgaggcaca acacattcaga caatcctagc
60
aatgttctgg aatcctatgt gagggacaaa cattcagacc ccagcagcaa tgttctggaa
120
tcctatggga gggacaaact ctcagaaaat agcaagagta ttttggaatc ctatctgagg
180
tataaacact cagaacctca tagcagtgtt caggaatcct atgtgaggga caaacattca
240
gaccacagca ggagcattct agaatcctat ttgaggaaca acacattcaga caatcgtagc
300
agtgttctgg aatccttttt tttttttgaag ctttcaatct ctt
343
```

<210> 4036
<211> 114
<212> PRT
<213> Homo sapiens

<400> 4036

```
Xaa Leu Asn Ser Ser Val Met Glu Phe His Val Arg His Lys His Ser
1                       5                      10                      15
Asp Asn Pro Ser Asn Val Leu Glu Ser Tyr Val Arg Asp Lys His Ser
            20              .       25                      30
Asp Pro Ser Ser Asn Val Leu Glu Ser Tyr Gly Arg Asp Lys Leu Ser
        35                      40                      45
Glu Asn Ser Lys Ser Ile Leu Glu Ser Tyr Leu Arg Tyr Lys His Ser
    50                      55                      60
Glu Pro His Ser Ser Val Gln Glu Ser Tyr Val Arg Asp Lys His Ser
65                      70                      75                      80
Asp His Ser Arg Ser Ile Leu Glu Ser Tyr Leu Arg Asn Lys His Ser
        .       85                      90                      95
Asp Asn Arg Ser Ser Val Leu Glu Ser Phe Phe Phe Leu Lys Leu Ser
            100                     105     .               110
Ile Ser
```

<210> 4037
<211> 741
<212> DNA
<213> Homo sapiens

<400> 4037

```
ttttttttt   ttttttttgg   aaagagaaaa   tatatttact   attcattaag   tggatgcggg
60
tcatcataaa   ggtcttcatt   ctcatcctct   tcacgttgag   taggctgagg   aggaggaaga
120
ggaggagaag   gggttggtct   tgctgtctca   gggcggcaga   ggcagaagag   aatctgagca
180
tacgtggacc   tgtagccagg   tgggcataga   taaaaggaaa   tattgtttgc   cagtccctgc
240
tggaatgatg   cctttacaca   tctgtctgat   ctgattgctc   cactgttttc   tgacttctct
300
tccctttcca   gggttctagc   ctgttcatct   agccccatga   tggctgtgga   catcgagtac
360
agatacaact   gcatggctcc   ttccttgcgc   caagagaggt   ttgcctttaa   gatctcacca
420
aagcccagca   aaccactgag   gccttgtatt   cagctgagca   gcaagaatga   agccagtgga
480
atggtggccc   cggctgtcca   ggagaagaag   gtgaaaaagc   gggtgtcctt   cgcagacaac
540
caggggctgg   ccctgacaat   ggtcaaagtg   ttctcggaat   tcgatgaccc   gctagatatg
600
ccattcaaca   tcaccgagct   cctagacaac   attgtgagct   tgacgacagc   agagagcgag
660
agctttgttc   tggattttc   ccagccctct   gcagattact   tagacttag    aaatcgactt
720
caggccgacc   acgtctgcct   t
741
```

```
<210>  4038
<211>  134
<212>  PRT
<213>  Homo sapiens

<400>  4038
Met Ala Val Asp Ile Glu Tyr Arg Tyr Asn Cys Met Ala Pro Ser Leu
1               5                   10                  15
Arg Gln Glu Arg Phe Ala Phe Lys Ile Ser Pro Lys Pro Ser Lys Pro
            20                  25                  30
Leu Arg Pro Cys Ile Gln Leu Ser Ser Lys Asn Glu Ala Ser Gly Met
        35                  40                  45
Val Ala Pro Ala Val Gln Glu Lys Lys Val Lys Lys Arg Val Ser Phe
    50                  55                  60
Ala Asp Asn Gln Gly Leu Ala Leu Thr Met Val Lys Val Phe Ser Glu
65                  70                  75                  80
Phe Asp Asp Pro Leu Asp Met Pro Phe Asn Ile Thr Glu Leu Leu Asp
                85                  90                  95
Asn Ile Val Ser Leu Thr Thr Ala Glu Ser Glu Ser Phe Val Leu Asp
                100                 105                 110
Phe Ser Gln Pro Ser Ala Asp Tyr Leu Asp Phe Arg Asn Arg Leu Gln
        115                 120                 125
Ala Asp His Val Cys Leu
        130
```

```
<210>  4039
<211>  1503
```

<212> DNA
<213> Homo sapiens

<400> 4039
gcgagcgccg ggaacgagca ccaccagggc tggagcggac ggctttagaa gagcctagct
60
gctgcgcgcg tcggagaggc tcctggggaa actcccacgg cccagggact ttcgaaagca
120
gagcgaggag ccctcgcacg cgctagtctg cgagtgagcg ctcagcccgg cacctgttcc
180
tccagcgccg ccgccttccc acccctcgga cccgcgccgc tcgcggcgcc cgcccgttcc
240
tgcgatgaat ccggccctag gcaaccagac ggacgtggcg ggccttcctg gccaacagca
300
gcgaggcgct ggagcgagcc gtgcgctgct gcacccaggc gtccgtggtg accgacgacg
360
gcttcgcgga gggaggcccg gacgagcgta gcctgtacat aatgcgcgtg gtgcagatcg
420
cggtcatgtg cgtgctctca ctcaccgtgg tcttcggcat cttcttcctc ggctgcaatc
480
tgctcatcaa gtccgagggc atgatcaact tcctcgtgaa ggaccggagg ccgtctaagg
540
aggtggaggc ggtggtcgtg gggccctact gacccgccct ctgcccccgc ggcaaccgct
600
cccacgcctg cccactttgc tagcccggct gtgcccctca ctatcagaga ctgggcgaag
660
caaacctgtc ggagtcaatt atttctctcg acttcggcct ttcggaaaga agcgaccggt
720
ttctccctcg ccctctgaaa gtcctcatgc ctggcagtcg gaggagagcg cccagactct
780
gaactcagca gaaagtggca agaagagggc gattagggcg cagaactttg gaagctgcta
840
cttacttgga atgcggggag accgacggtg cgaaggccct tctccacccg caggtgggcc
900
aagctctggg ggcaggtgga gagggcgggc aggggagaga cccagcggca ctgatcgcct
960
tgtgaccgga agagtgacct gttaaaagcc acgcagcaga ctcatggggt ctcacaaatc
1020
cgtgtccggg tgcgctccca ctcttctcct gctccccccc tgcccctgga ggggaggggc
1080
gataaatacc tttgattgta acgtgccgtt ttaagaggtt ttgtgtttgt ttgcttgaat
1140
acaaatgttt gataagtctt tttctgcccc agtggcctgt ttgcctgcct gaggagttac
1200
agttttgtca ttgtggaaga aggggtgggg ggagggggag cctgcgaatt tgaacggggt
1260
gagttgtttc ttttagtgca tttcccactg ggtcttttgg gaggcgtcta gcgttcctgc
1320
tggccctggg acaaagaccc agaatagaac tcgtagctcg tgactgcacg gtttacgcca
1380
caaaagtgct cttgacatcc gtgacaccgt tttgactttt tgttttttc ttatttaaca
1440
tttccttaat aaatgcaaca tttaagcgtt aaaaaaaaaa aaaaaaaaa aaaaaaaaa
1500

aaa
1503

<210> 4040
<211> 100
<212> PRT
<213> Homo sapiens

<400> 4040
Lys Ser Leu Ala Ala Ala Arg Val Gly Glu Ala Pro Gly Glu Thr Pro
 1   5   10   15
Thr Ala Gln Gly Leu Ser Lys Ala Glu Arg Gly Ala Leu Ala Arg Ala
                20   25   30
Ser Leu Arg Val Ser Ala Gln Pro Gly Thr Cys Ser Ser Ser Ala Ala
            35   40   45
Ala Phe Pro Pro Leu Gly Pro Ala Pro Leu Ala Ala Pro Ala Arg Ser
        50   55   60
Cys Asp Glu Ser Gly Pro Arg Gln Pro Asp Gly Arg Gly Gly Pro Ser
65   70   75   80
Trp Pro Thr Ala Ala Arg Arg Trp Ser Glu Pro Cys Ala Ala Ala Pro
                85   90   95
Arg Arg Pro Trp
            100

<210> 4041
<211> 573
<212> DNA
<213> Homo sapiens

<400> 4041
gatcttattg aggaacgagc catctatttt gatggagact ttggtcagat tgttcgatat
60
ggtgagattc cagctgaatt aagggcggcg gccactgacc accggcagga gctaattgaa
120
tgtgttgcca attcagatga acagcttggt gagatgtttc tggaagaaaa aatcccctcg
180
atttctgatt taaagctagc aattcgaaga gctactctga aaagatcatt tactcctgta
240
tttttgggaa gcgccttgaa gaacaaagga gttcagcctc ttttagatgc tgttttagaa
300
tacctcccaa atccatctga gtccagaac tatgctattc tcaataaaga ggatgactca
360
aaagagaaaa ccaaaatcct aatgaactcc agtagagaca attcccaccc atttgtaggc
420
ctggctttta aactggaggt aggtcgattt ggacaattaa cttatgttcg cagttatcag
480
ggagagctaa agaagggtga caccatctat aacacaagga caagaaagaa agtacggttg
540
caacggctgg ctcgcatgca tgccgacatg atg
573

<210> 4042
<211> 191
<212> PRT

3221

<213> Homo sapiens

<400> 4042
Asp Leu Ile Glu Glu Arg Ala Ile Tyr Phe Asp Gly Asp Phe Gly Gln
 1   5   10   15
Ile Val Arg Tyr Gly Glu Ile Pro Ala Glu Leu Arg Ala Ala Ala Thr
            20   25   30
Asp His Arg Gln Glu Leu Ile Glu Cys Val Ala Asn Ser Asp Glu Gln
        35   40   45
Leu Gly Glu Met Phe Leu Glu Glu Lys Ile Pro Ser Ile Ser Asp Leu
    50   55   60
Lys Leu Ala Ile Arg Arg Ala Thr Leu Lys Arg Ser Phe Thr Pro Val
65   70   75   80
Phe Leu Gly Ser Ala Leu Lys Asn Lys Gly Val Gln Pro Leu Leu Asp
                85   90   95
Ala Val Leu Glu Tyr Leu Pro Asn Pro Ser Glu Val Gln Asn Tyr Ala
            100   105   110
Ile Leu Asn Lys Glu Asp Asp Ser Lys Glu Lys Thr Lys Ile Leu Met
            115   120   125
Asn Ser Ser Arg Asp Asn Ser His Pro Phe Val Gly Leu Ala Phe Lys
        130   135   140
Leu Glu Val Gly Arg Phe Gly Gln Leu Thr Tyr Val Arg Ser Tyr Gln
1.5   150   155   160
Gly Glu Leu Lys Lys Gly Asp Thr Ile Tyr Asn Thr Arg Thr Arg Lys
                165   170   175
Lys Val Arg Leu Gln Arg Leu Ala Arg Met His Ala Asp Met Met
                180   185   190

<210> 4043
<211> 744
<212> DNA
<213> Homo sapiens

<400> 4043
nntgcctggc ccagtctctc ccgcctcggc ccaacatgga cttcagagaa attctcatga
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tagcttccaa gggacaaggt gtcaacaatg tgccgaaaag ggatagttgg ccagtggggc
120
ctcccaaaaa aagacccaaa agttaaaggt gtccaatcag cagctgtaca agcttttctt
180
aaaaggaaag aagaggagct gagacgaaaa gccttagagg agaaaggag aaaagaggaa
240
ctagtgaaaa agcgaattga gctcaaacat gacaagaaag caagagctat ggccaagagg
300
acaaaggata atttccatgg ttacaatggg attcctattg aggaaaagtc aaagaagagg
360
caggcaacag aaagccatac cagccaagga accgaccgag agtatgaaat ggaagaagag
420
aatgaattcc tcgagtacaa tcacgcagag tcagagcagg agtatgagga agagcaagaa
480
cctcccaaag ttgaaagcaa accaaaggtc tcccttaaag gtgccccacc acccatgaac
540
ttcactgatt tactcaggct ggctgagaaa aagcagtttg aaccagtgga aatcaaggta
600

gtgaagaaat cagaagagcg acctatgacc gcagaagaac ttagggagcg agaattcctt
660
gaacgaaagc ataggagaaa aaaacttgag acagatggaa aactacctcc aactgtgtcc
720
aaaaaggcac ctctcggacg gaag
744

<210> 4044
<211> 219
<212> PRT
<213> Homo sapiens

<400> 4044
Met Cys Arg Lys Gly Ile Val Gly Gln Trp Gly Leu Pro Lys Lys Asp
 1   5   10   15
Pro Lys Val Lys Gly Val Gln Ser Ala Ala Val Gln Ala Phe Leu Lys
                20   25   30
Arg Lys Glu Glu Glu Leu Arg Arg Lys Ala Leu Glu Glu Lys Arg Arg
            35   40   45
Lys Glu Glu Leu Val Lys Lys Arg Ile Glu Leu Lys His Asp Lys Lys
        50   55   60
Ala Arg Ala Met Ala Lys Arg Thr Lys Asp Asn Phe His Gly Tyr Asn
65   70   75   80
Gly Ile Pro Ile Glu Glu Lys Ser Lys Lys Arg Gln Ala Thr Glu Ser
                85   90   95
His Thr Ser Gln Gly Thr Asp Arg Glu Tyr Glu Met Glu Glu Glu Asn
                100   105   110
Glu Phe Leu Glu Tyr Asn His Ala Glu Ser Glu Gln Glu Tyr Glu Glu
            115   120   125
Glu Gln Glu Pro Pro Lys Val Glu Ser Lys Pro Lys Val Ser Leu Lys
        130   135   140
Gly Ala Pro Pro Pro Met Asn Phe Thr Asp Leu Leu Arg Leu Ala Glu
145   150   155   160
Lys Lys Gln Phe Glu Pro Val Glu Ile Lys Val Val Lys Lys Ser Glu
                165   170   175
Glu Arg Pro Met Thr Ala Glu Glu Leu Arg Glu Arg Glu Phe Leu Glu
                180   185   190
Arg Lys His Arg Arg Lys Lys Leu Glu Thr Asp Gly Lys Leu Pro Pro
            195   200   205
Thr Val Ser Lys Lys Ala Pro Leu Gly Arg Lys
    210   215

<210> 4045
<211> 2217
<212> DNA
<213> Homo sapiens

<400> 4045
ngtagctaca gtacatactg atgagtgaag aatggtttgc tttgggaata ttttcttagt
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tcttcaagga catgatgtgg aagtcttgac ttgagtaact tcaatagcac taacaacagg
120
aattgaaaaa aacttagaat tttaaagctg agaaagagtt atcgctgtga tgattttgtg
180

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gttaatgaca ccaagctggg actggtacag aaagtcagag aacacttaca gaacttggaa
240
aactcagctt tcacagctga caggcataag aaaagaaaac ttttggaaaa ctcaacacta
300
aacagcaagt tattaaaagt aaatggaagc accactgcca tttgtgccac aggccttcgg
360
aatttgggga acacatgttt catgaatgcc atccttcagt cactcagtaa cattgagcag
420
ttttgctgtt atttcaaaga actgcccgcc gtggagttaa ggaatgggaa aacagcagga
480
aggcggacat accacaccag gagccaaggg ataacaatg tgtctttggt agaagagttt
540
agaaagacac tctgtgcttt atggcaaggc agccagactg catttagccc agagtcctta
600
tttttatgttg tttggaagat tatgccaaac tttaggggct atcaacagca ggacgcccat
660
gaattcnatg cgctaccttt tggaccacct acacttggan acttcagggc ggtttcaacg
720
gtgtttcccg ctcagcaatt ctgcaggaga attctactct gtctgcaagt anacaagtgt
780
tgcataaatg gagcatctac tgttgtcacg gctatattcg gaggcattct ccaaaatgag
840
gttaactgcc tcatatgtgg gacagaatct agaaagtttg atccattcct agacctttca
900
ttagatattc caagtcagtt cagaagtaag cgctctaaga atcaagaaaa tggaccagtt
960
tgttcgttac gagattgtct tcgcagtttt accgacttag aagaacttga tgagacagag
1020
ttatatatgt gccataaatg caaanagaaa caaaagtcca caaaaaagtt ttggattcaa
1080
aaactaccca aggtgctatg cttacatttg aaaagatttc attggacagc atatttaaga
1140
aataaagttg atacatacgt agaatttcca ctgagaggcc tagacatgaa atgctactta
1200
ctagatcctg agaacagtgg cccggagagc tgcctgtatg acctcgccgc tgtggtggtg
1260
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1320
tggttccact tcaatgacag tactgtaaca ctgactgacg aagagactgt ggtgaaggcg
1380
aaggctaaca tccttttcta cgtggaacac caggccaaag ctggatcgga taaactttaa
1440
tacctcctcc aaatcatcat tcaccaacca taccagagaa acatttccag ttttccacaa
1500
atacttgata caagatttaa tttcattatg cacttttcaa ttcctatttt tggatttagt
1560
tttgtcaatg gtagtgactt actgaacatg ggcaccaact aatttgttg ttgttctacc
1620
agaaaacctc agcagatgtt ttgatttgct gctttagttg taataattca attttttatag
1680
gtagttgtaa gaacttagtc ttatttgact tttttatttt atgttaatgt tttcagttct
1740
cactttgagg cacatttaca tcaatgcttt tgttcctctc acatgctgaa agcaagatgt
1800
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3224

gttccttatt gtgaagagcg acacaactgc ctgctgcctt tccacagcta taatggacat
1860
caggttgact ctaaatcaag gatcatgtgt gcacaatact tgtggcccac aaaatttcac
1920
aatgactgct gaggaatcat tctttttgcc tgtaaaatat aacaagggc atcattaagt
1980
agaccaggta attactgctt gtctctcaag gctgctgtct ttatcagcac taactaaata
2040
aatttgttgg ttcagttgta cttgtcctgc aaatacaaga attactctct ttgttggttt
2100
ttttggtttt ggggcatact tgtttgcggg gaggtaagat gggagtaaag accaaataca
2160
tgtaatgttt aaaaaaaatg ctgtgactcc ctgacatggt ataggtgtta ccagtga
2217

<210> 4046
<211> 437
<212> PRT
<213> Homo sapiens

<400> 4046
Lys Lys Leu Arg Ile Leu Lys Leu Arg Lys Ser Tyr Arg Cys Asp Asp
1   5   10   15
Phe Val Val Asn Asp Thr Lys Leu Gly Leu Val Gln Lys Val Arg Glu
            20   25   30
His Leu Gln Asn Leu Glu Asn Ser Ala Phe Thr Ala Asp Arg His Lys
        35   40   45
Lys Arg Lys Leu Leu Glu Asn Ser Thr Leu Asn Ser Lys Leu Leu Lys
    50   55   60
Val Asn Gly Ser Thr Thr Ala Ile Cys Ala Thr Gly Leu Arg Asn Leu
65   70   75   80
Gly Asn Thr Cys Phe Met Asn Ala Ile Leu Gln Ser Leu Ser Asn Ile
                85   90   95
Glu Gln Phe Cys Cys Tyr Phe Lys Glu Leu Pro Ala Val Glu Leu Arg
            100   105   110
Asn Gly Lys Thr Ala Gly Arg Arg Thr Tyr His Thr Arg Ser Gln Gly
            115   120   125
Asp Asn Asn Val Ser Leu Val Glu Glu Phe Arg Lys Thr Leu Cys Ala
        130   135   140
Leu Trp Gln Gly Ser Gln Thr Ala Phe Ser Pro Glu Ser Leu Phe Tyr
145   150   155   160
Val Val Trp Lys Ile Met Pro Asn Phe Arg Gly Tyr Gln Gln Gln Asp
                165   170   175
Ala His Glu Phe Xaa Ala Leu Pro Phe Gly Pro Pro Thr Leu Gly Xaa
            180   185   190
Phe Arg Ala Val Ser Thr Val Phe Pro Ala Gln Gln Phe Cys Arg Arg
            195   200   205
Ile Leu Leu Cys Leu Gln Val Xaa Lys Cys Cys Ile Asn Gly Ala Ser
        210   215   220
Thr Val Val Thr Ala Ile Phe Gly Gly Ile Leu Gln Asn Glu Val Asn
225   230   235   240
Cys Leu Ile Cys Gly Thr Glu Ser Arg Lys Phe Asp Pro Phe Leu Asp
                245   250   255
Leu Ser Leu Asp Ile Pro Ser Gln Phe Arg Ser Lys Arg Ser Lys Asn

```
            260                     265                     270
    Gln Glu Asn Gly Pro Val Cys Ser Leu Arg Asp Cys Leu Arg Ser Phe
            275                     280                     285
    Thr Asp Leu Glu Glu Leu Asp Glu Thr Glu Leu Tyr Met Cys His Lys
        290                     295                     300
    Cys Lys Xaa Lys Gln Lys Ser Thr Lys Lys Phe Trp Ile Gln Lys Leu
    305                     310                     315                     320
    Pro Lys Val Leu Cys Leu His Leu Lys Arg Phe His Trp Thr Ala Tyr
                    325                     330                     335
    Leu Arg Asn Lys Val Asp Thr Tyr Val Glu Phe Pro Leu Arg Gly Leu
                340                     345                     350
    Asp Met Lys Cys Tyr Leu Leu Asp Pro Glu Asn Ser Gly Pro Glu Ser
            355                     360                     365
    Cys Leu Tyr Asp Leu Ala Ala Val Val Val His His Gly Ser Gly Val
        370                     375                     380
    Gly Ser Gly His Tyr Thr Ala Tyr Ala Thr His Glu Gly Arg Trp Phe
    385                     390                     395                     400
    His Phe Asn Asp Ser Thr Val Thr Leu Thr Asp Glu Glu Thr Val Val
                    405                     410                     415
    Lys Ala Lys Ala Asn Ile Leu Phe Tyr Val Glu His Gln Ala Lys Ala
                420                     425                     430
    Gly Ser Asp Lys Leu
            435
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<210> 4047
<211> 809
<212> DNA
<213> Homo sapiens

<400> 4047

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gcagttaaca ttacaaggcc ctagaagtaa tacacatcgc aattcaagtc tgtattcttg
60
aactttccc  ctgttactgt gaagaagagt atcatgggtc catttaatct ttgattactg
120
cctaaaagca ttcattgccc cagtagttct taattgtctt ggaaatcatt ctcttgcaaa
180
cttcacattt ccatatcata ctttacttta cgctattact tcatgggctc ctgggcattt
240
ggtctgtttg tgtttctcct ttcctctttg aacaaagtca ggaaaaatgt gtcagtagga
300
gaaaggagga gctgaaggga gtaaataatt caagatcact tctgtcattt gtagtggctg
360
agggctagaa agatattctt cggtgaagaa actcccaaca ggttccatca gactgataca
420
acttcagggg ggccaccctc tgcagatggc agtgaatttg cacctgtttg tggtacaggc
480
actaccacag catctttgat gtctgtgttt acattacatg agaagttctt ctccagtttt
540
ttggcagtgt ctgggcaatt ttgtacaaag atcacacggt tgtaggcctt cagcctgcgc
600
cacaactgaa catagacttt acactgtacg tacatgaaga caagacctcc tgtgaagcca
660
atggctacca caaccagttt tgtccaaaat ggccattcaa ggacaccttt gaaatgaaaa
720
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agagaaaatg ttatcaccaa gttgtcctca gtggatttgg tcattttttt ttcctatgac
780
ccttcaaagg cccgtgcttg ccttctaga
809
```

<210> 4048
<211> 118
<212> PRT
<213> Homo sapiens

<400> 4048
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Met Thr Lys Ser Thr Glu Asp Asn Leu Val Ile Thr Phe Ser Leu Phe
1               5                   10                  15
His Phe Lys Gly Val Leu Glu Trp Pro Phe Trp Thr Lys Leu Val Val
            20                  25                  30
Val Ala Ile Gly Phe Thr Gly Gly Leu Val Phe Met Tyr Val Gln Cys
            35                  40                  45
Lys Val Tyr Val Gln Leu Trp Arg Arg Leu Lys Ala Tyr Asn Arg Val
        50                  55                  60
Ile Phe Val Gln Asn Cys Pro Asp Thr Ala Lys Lys Leu Glu Lys Asn
65                  70                  75                  80
Phe Ser Cys Asn Val Asn Thr Asp Ile Lys Asp Ala Val Val Val Pro
                85                  90                  95
Val Pro Gln Thr Gly Ala Asn Ser Leu Pro Ser Ala Glu Gly Gly Pro
            100                 105                 110
Pro Glu Val Val Ser Val
            115
```

<210> 4049
<211> 1211
<212> DNA
<213> Homo sapiens

<400> 4049
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nncctaagtg acccttctca ggacctgcag ttcattgtgg ccggggatga gtgtgtctac
60
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Ile Val Ser Arg Asp Arg Lys Val Ser Pro Lys Ser Glu Phe Thr Ser
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Arg Asp Ser Gln Ser Ser Asp Lys Gln Ile Leu Asn Ile Tyr Asp Leu
65   70   75   80
Cys Asn Lys Phe Ile Ala Tyr Ser Thr Val Phe Glu Asp Val Val Asp
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Val Leu Ala Glu Trp Gly Ser Leu Tyr Val Leu Thr Arg Asp Gly Arg
            100   105   110
Val His Ala Leu Gln Glu Lys Asp Thr Gln Thr Lys Leu Glu Met Leu
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Phe Lys Lys Asn Leu Phe Glu Met Ala Ile Asn Leu Ala Lys Ser Gln
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His Leu Asp Ser Asp Gly Leu Ala Gln Ile Phe Met Gln Tyr Gly Asp
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His Leu Tyr Ser Lys Gly Asn His Asp Gly Ala Val Gln Gln Tyr Ile
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Arg Thr Ile Gly Lys Leu Glu Pro Ser Tyr Val Ile Arg Lys Phe Leu
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Asp Ala Gln Arg Ile His Asn Leu Thr Ala Tyr Leu Gln Thr Leu His

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Lys Ser Glu Ser Glu Val His Phe Asp Val Glu Thr Ala Ile Lys Val
                245                250                255
Leu Arg Gln Ala Gly Tyr Tyr Ser His Ala Leu Tyr Leu Ala Glu Asn
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His Ala His His Glu Trp Tyr Leu Lys Ile Gln Leu Glu Asp Ile Lys
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Asn Tyr Gln Glu Ala Leu Arg Tyr Ile Gly Lys Leu Pro Phe Glu Gln
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Pro Glu Gln Thr Thr Gln Leu Leu Lys Gly Leu Cys Thr Asp Tyr Arg
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Pro Ser Leu Glu Gly Arg Ser Asp Arg Glu Ala Pro Gly Cys Arg Ala
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Asn Ser Glu Glu Phe Ile Pro Ile Phe Ala Asn Asn Pro Arg Glu Leu
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Lys Ala Phe Leu Glu His Met Ser Glu Val Gln Pro Asp Ser Pro Gln
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<212> DNA
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<213> Homo sapiens
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            20                  25                  30
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            35                  40                  45
Pro Thr Lys Pro Leu Pro Pro Ala Pro Pro Ser Met Gly Ser Asp Ser
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Arg Pro Gly Gly Thr Glu Thr Leu Arg Glu Ala Cys Ala Ala Leu Gly
            35   40   45
Glu Gly Arg Gly Gly Ser Arg His Ser Cys Pro Arg Arg Val Gly Arg
        50   55   60
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65   70   75   80
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7680

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7740

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7800

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7980

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8040

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tataatcatg caccaaactt tttatttctt taaggtggga gtatatttt atttcctaaa
8160

tgccatacta tgaagatcaa agtcttaagt gtgtttgcag ctcaaaaata aagatgtatt
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aaggggggaa aacctggtct aagtgcaagg cacacttaca gcgagttta ctttcggttg
8280

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8340

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8400

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8458

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<211> 2434
<212> PRT
<213> Homo sapiens

<400> 4056
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Cys Phe Ala Ser Leu Ala Asp Arg Phe Thr Arg Arg Gly Val Asp Pro
            35   40   45
Ala Pro Leu Ala Lys His Gly Leu Thr Glu Glu Leu Leu Ser Arg Met
        50   55   60
Ala Ala Ala Gly Gly Thr Val Ser Gly Pro Ser Ser Ala Cys Lys Pro
65   70   75   80
Gly Arg Ser Thr Thr Gly Ala Pro Ser Thr Thr Ala Asp Ser Lys Leu
                85   90   95
Ser Asn Gln Val Ser Thr Ile Val Ser Leu Leu Ser Thr Leu Cys Arg
            100   105   110
Gly Ser Pro Val Val Thr His Asp Leu Leu Arg Ser Glu Leu Pro Asp
            115   120   125
Ser Ile Glu Ser Ala Leu Gln Gly Asp Glu Arg Cys Val Leu Asp Thr
        130   135   140
Met Arg Leu Val Asp Leu Leu Leu Val Leu Leu Phe Glu Gly Arg Lys
145   150   155   160
Ala Leu Pro Lys Ser Ser Ala Gly Ser Thr Gly Arg Ile Pro Gly Leu
                165   170   175
Arg Arg Leu Asp Ser Ser Gly Glu Arg Ser His Arg Gln Leu Ile Asp
            180   185   190
Cys Ile Arg Ser Lys Asp Thr Asp Ala Leu Ile Asp Ala Ile Asp Thr
        195   200   205
Gly Ala Phe Glu Val Asn Phe Met Asp Asp Val Gly Gln Thr Leu Leu
        210   215   220
Asn Trp Ala Ser Ala Phe Gly Thr Gln Glu Met Val Glu Phe Leu Cys
225   230   235   240
Glu Arg Gly Ala Asp Val Asn Arg Gly Gln Arg Ser Ser Ser Leu His
                245   250   255
Tyr Ala Ala Cys Phe Gly Arg Pro Gln Val Ala Lys Thr Leu Leu Arg
                260   265   270
His Gly Ala Asn Pro Asp Leu Arg Asp Glu Asp Gly Lys Thr Pro Leu
        275   280   285
Asp Lys Ala Arg Glu Arg Gly His Ser Glu Val Val Ala Ile Leu Gln
        290   295   300
Ser Pro Gly Asp Trp Met Cys Pro Val Asn Lys Gly Asp Asp Lys Lys

3237

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305                           310                           315                           320
Lys Lys Asp Thr Asn Lys Asp Glu Glu Glu Cys Asn Glu Pro Lys Gly
                  325                           330                           335
Asp Pro Glu Met Ala Pro Ile Tyr Leu Lys Arg Leu Leu Pro Val Phe
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Ala Gln Thr Phe Gln Gln Thr Met Leu Pro Ser Ile Arg Lys Ala Ser
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Leu Ala Leu Ile Arg Lys Met Ile His Phe Cys Ser Glu Ala Leu Leu
      370                           375                           380
Lys Glu Val Cys Asp Ser Asp Val Gly His Asn Leu Pro Thr Ile Leu
  385                           390                           395                           400
Val Glu Ile Thr Ala Thr Val Leu Asp Gln Glu Asp Asp Asp Asp Gly
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His Leu Leu Ala Leu Gln Ile Ile Arg Asp Leu Val Asp Lys Gly Gly
                  420                           425                           430
Asp Ile Phe Leu Asp Gln Leu Ala Arg Leu Gly Val Ile Ser Lys Val
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Ser Thr Leu Ala Gly Pro Ser Ser Asp Asp Glu Asn Glu Glu Glu Ser
          450                           455                           460
Lys Pro Glu Lys Glu Asp Glu Pro Gln Glu Asp Ala Lys Glu Leu Gln
  465                           470                           475                           480
Gln Gly Lys Pro Tyr His Trp Arg Asp Trp Ser Ile Ile Arg Gly Arg
                  485                           490                           495
Asp Cys Leu Tyr Ile Trp Ser Asp Ala Ala Ala Leu Glu Leu Ser Asn
              500                           505                           510
Gly Ser Asn Gly Trp Phe Arg Phe Ile Leu Asp Gly Lys Leu Ala Thr
          515                           520                           525
Met Tyr Ser Ser Gly Ser Pro Glu Gly Gly Ser Asp Ser Ser Glu Ser
      530                           535                           540
Arg Ser Glu Phe Leu Glu Lys Leu Gln Arg Ala Arg Gly Gln Val Lys
  545                           550                           555                           560
Pro Ser Thr Ser Ser Gln Pro Ile Leu Ser Ala Pro Gly Pro Thr Lys
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Leu Thr Val Gly Asn Trp Ser Leu Thr Cys Leu Lys Glu Gly Glu Ile
              580                           585                           590
Ala Ile His Asn Ser Asp Gly Gln Gln Ala Thr Ile Leu Lys Glu Asp
          595                           600                           605
Leu Pro Gly Phe Val Phe Glu Ser Asn Arg Gly Thr Lys His Ser Phe
      610                           615                           620
Thr Ala Glu Thr Ser Leu Gly Ser Glu Phe Val Thr Gly Trp Thr Gly
  625                           630                           635                           640
Lys Arg Gly Arg Lys Leu Lys Ser Lys Leu Glu Lys Thr Lys Xaa Lys
                  645                           650                           655
Val Arg Thr Met Ala Arg Asp Leu Tyr Asp Asp His Phe Lys Ala Val
              660                           665                           670
Glu Ser Met Pro Arg Gly Val Val Val Thr Leu Arg Asn Ile Ala Thr
          675                           680                           685
Gln Leu Glu Ser Ser Trp Glu Leu His Thr Asn Arg Gln Cys Ile Glu
      690                           695                           700
Ser Glu Asn Thr Trp Arg Asp Leu Met Lys Thr Ala Leu Glu Asn Leu
  705                           710                           715                           720
Ile Val Leu Leu Lys Asp Glu Asn Thr Ile Ser Pro Tyr Glu Met Cys
                  725                           730                           735
Ser Ser Gly Leu Val Gln Ala Leu Leu Thr Val Leu Asn Asn Ser Met
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                    740                  745                  750
Asp Leu Asp Met Lys Gln Asp Cys Ser Gln Leu Val Glu Arg Ile Asn
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Val Phe Lys Thr Ala Phe Ser Glu Asn Glu Asp Asp Glu Ser Arg Pro
    770                  775                  780
Ala Val Ala Leu Ile Arg Lys Leu Ile Ala Val Leu Glu Ser Ile Glu
785                  790                  795                  800
Arg Leu Pro Leu His Leu Tyr Asp Thr Pro Gly Ser Thr Tyr Asn Leu
             805                  810                  815
Gln Ile Leu Thr Arg Arg Leu Arg Phe Arg Leu Glu Arg Ala Pro Gly
             820                  825                  830
Glu Thr Ala Leu Ile Asp Arg Thr Gly Arg Met Leu Lys Met Glu Pro
        835                  840                  845
Leu Ala Thr Val Glu Ser Leu Glu Gln Tyr Leu Leu Lys Met Val Ala
        850                  855                  860
Lys Gln Trp Tyr Asp Phe Asp Arg Ser Ser Phe Val Phe Val Arg Lys
865                  870                  875                  880
Leu Arg Glu Gly Gln Asn Phe Ile Phe Arg His Gln His Asp Phe Asp
                 885                  890                  895
Glu Asn Gly Ile Ile Tyr Trp Ile Gly Thr Asn Ala Lys Thr Ala Tyr
             900                  905                  910
Glu Trp Val Asn Pro Ala Ala Tyr Gly Leu Val Val Val Thr Ser Ser
        915                  920                  925
Glu Gly Arg Asn Leu Pro Tyr Gly Arg Leu Glu Asp Ile Leu Ser Arg
    930                  935                  940
Asp Asn Ser Ala Leu Asn Cys His Ser Asn Asp Asp Lys Asn Ala Trp
945                  950                  955                  960
Phe Ala Ile Asp Leu Gly Leu Trp Val Ile Pro Ser Ala Tyr Thr Leu
             965                  970                  975
Arg His Ala Arg Gly Tyr Gly Arg Ser Ala Leu Arg Asn Trp Val Phe
             980                  985                  990
Gln Val Ser Lys Asp Gly Gln Asn Trp Thr Ser Leu Tyr Thr His Val
         995                 1000                 1005
Asp Asp Cys Ser Leu Asn Glu Pro Gly Ser Thr Ala Thr Trp Pro Leu
    1010                 1015                 1020
Asp Pro Pro Lys Asp Glu Lys Gln Gly Trp Arg His Val Arg Ile Lys
1025                 1030                 1035                 1040
Gln Met Gly Lys Asn Ala Ser Gly Gln Thr His Tyr Leu Ser Leu Ser
                 1045                 1050                 1055
Gly Phe Glu Leu Tyr Gly Thr Val Asn Gly Val Cys Glu Asp Gln Leu
         1060                 1065                 1070
Gly Lys Ala Ala Lys Glu Ala Glu Ala Asn Leu Arg Arg Gln Arg Arg
         1075                 1080                 1085
Leu Val Arg Ser Gln Val Leu Lys Tyr Met Val Pro Gly Ala Arg Val
    1090                 1095                 1100
Ile Arg Gly Leu Asp Trp Lys Trp Arg Asp Gln Asp Gly Ser Pro Gln
1105                 1110                 1115                 1120
Gly Glu Gly Thr Val Thr Gly Glu Leu His Asn Gly Trp Ile Asp Val
             1125                 1130                 1135
Thr Trp Asp Ala Gly Gly Ser Asn Ser Tyr Arg Met Gly Ala Glu Gly
         1140                 1145                 1150
Lys Phe Asp Leu Lys Leu Ala Pro Gly Tyr Asp Pro Asp Thr Val Ala
         1155                 1160                 1165
Ser Pro Lys Pro Val Ser Ser Thr Val Ser Gly Thr Thr Gln Ser Trp
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                                    3239

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          1170                  1175                  1180
Ser Ser Leu Val Lys Asn Asn Cys Pro Asp Lys Thr Ser Ala Ala Ala
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Gly Ser Ser Ser Arg Lys Gly Ser Ser Ser Ser Val Cys Ser Val Ala
                     1205                  1210                  1215
Ser Ser Ser Asp Ile Ser Leu Gly Ser Thr Lys Thr Glu Arg Arg Ser
          1220                  1225                  1230
Glu Ile Val Met Glu His Ser Ile Val Ser Gly Ala Asp Val His Glu
          1235                  1240                  1245
Pro Ile Val Val Leu Ser Ser Ala Glu Asn Val Pro Gln Thr Glu Val
     1250                  1255                  1260
Gly Ser Ser Ser Ser Ala Ser Thr Ser Thr Leu Thr Ala Glu Thr Gly
1265                  1270                  1275                  1280
Ser Glu Asn Ala Glu Arg Lys Leu Gly Pro Asp Ser Ser Val Arg Thr
               1285                  1290                  1295
Pro Gly Glu Ser Ser Ala Ile Ser Met Gly Ile Val Ser Val Ser Ser
          1300                  1305                  1310
Pro Asp Val Ser Ser Val Ser Glu Leu Thr Asn Lys Glu Ala Ala Ser
          1315                  1320                  1325
Gln Arg Pro Leu Ser Ser Ser Ala Ser Asn Arg Leu Ser Val Ser Ser
     1330                  1335                  1340
Leu Leu Ala Ala Gly Ala Pro Met Ser Ser Ser Ala Ser Val Pro Asn
1345                  1350                  1355                  1360
Leu Ser Ser Arg Glu Thr Ser Ser Leu Glu Ser Phe Val Arg Arg Val
               1365                  1370                  1375
Ala Asn Ile Ala Arg Thr Asn Ala Thr Asn Asn Met Asn Leu Ser Arg
               1380                  1385                  1390
Ser Ser Ser Asp Asn Asn Thr Asn Thr Leu Gly Arg Asn Val Met Ser
          1395                  1400                  1405
Thr Ala Thr Ser Pro Leu Met Gly Ala Gln Ser Phe Pro Asn Leu Thr
     1410                  1415                  1420
Thr Pro Gly Thr Thr Ser Thr Val Thr Met Ser Thr Ser Ser Val Thr
1425                  1430                  1435                  1440
Ser Ser Ser Asn Val Ala Thr Ala Thr Thr Val Leu Ser Val Gly Gln
               1445                  1450                  1455
Ser Leu Ser Asn Thr Leu Thr Thr Ser Leu Thr Ser Thr Ser Ser Glu
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Ser Asp Thr Gly Gln Glu Ala Glu Tyr Ser Leu Tyr Asp Phe Leu Asp
          1475                  1480                  1485
Ser Cys Arg Ala Ser Thr Leu Leu Ala Glu Leu Asp Asp Asp Glu Asp
     1490                  1495                  1500
Leu Pro Glu Pro Asp Glu Glu Asp Asp Glu Asn Glu Asp Asp Asn Gln
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Glu Asp Gln Glu Tyr Glu Glu Val Met Ile Leu Arg Arg Pro Ser Leu
               1525                  1530                  1535
Gln Arg Arg Ala Gly Ser Arg Ser Asp Val Thr His His Ala Val Thr
          1540                  1545                  1550
Ser Gln Leu Pro Gln Val Pro Ala Gly Ala Gly Ser Arg Pro Ile Gly
          1555                  1560                  1565
Glu Gln Glu Glu Glu Glu Tyr Glu Thr Lys Gly Gly Arg Arg Arg Thr
     1570                  1575                  1580
Trp Asp Asp Asp Tyr Val Leu Lys Arg Gln Phe Ser Ala Leu Val Pro
1585                  1590                  1595                  1600
Ala Phe Asp Pro Arg Pro Gly Arg Thr Asn Val Gln Gln Thr Thr Asp
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                  1605                  1610                  1615
Leu Glu Ile Pro Pro Pro Gly Thr Pro His Ser Glu Leu Leu Glu Glu
              1620                  1625                  1630
Val Glu Cys Thr Pro Ser Pro Arg Leu Ala Leu Thr Leu Lys Val Thr
          1635                  1640                  1645
Gly Leu Gly Thr Thr Arg Glu Val Glu Leu Pro Leu Thr Asn Phe Arg
      1650                  1655                  1660
Ser Thr Ile Phe Tyr Tyr Val Gln Lys Leu Leu Gln Leu Ser Cys Asn
1665                  1670                  1675                  1680
Gly Asn Val Lys Ser Asp Lys Leu Arg Arg Ile Trp Glu Pro Thr Tyr
              1685                  1690                  1695
Thr Ile Met Tyr Arg Glu Met Lys Asp Ser Asp Lys Glu Lys Glu Asn
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Gly Lys Met Gly Cys Trp Ser Ile Glu His Val Glu Gln Tyr Leu Gly
          1715                  1720                  1725
Thr Asp Glu Leu Pro Lys Asn Asp Leu Ile Thr Tyr Leu Gln Lys Asn
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Ala Asp Ala Ala Phe Leu Arg His Trp Lys Leu Thr Gly Thr Asn Lys
1745                  1750                  1755                  1760
Ser Ile Arg Lys Asn Arg Asn Cys Ser Gln Leu Ile Ala Ala Tyr Lys
              1765                  1770                  1775
Asp Phe Cys Glu His Gly Thr Lys Ser Gly Leu Asn Gln Gly Ala Ile
          1780                  1785                  1790
Ser Thr Leu Gln Ser Ser Asp Ile Leu Asn Leu Thr Lys Glu Gln Pro
          1795                  1800                  1805
Gln Ala Lys Ala Gly Asn Gly Gln Asn Ser Cys Gly Val Glu Asp Val
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1825                  1830                  1835                  1840
Arg Ile Ser Gln Glu Asp Gly Asp Glu Gln Pro Gln Phe Thr Phe Pro
              1845                  1850                  1855
Pro Asp Glu Phe Thr Ser Lys Lys Ile Thr Thr Lys Ile Leu Gln Gln
          1860                  1865                  1870
Ile Glu Glu Pro Leu Ala Leu Ala Ser Gly Ala Leu Pro Asp Trp Cys
          1875                  1880                  1885
Glu Gln Leu Thr Ser Lys Cys Pro Phe Leu Ile Pro Phe Glu Thr Arg
      1890                  1895                  1900
Gln Leu Tyr Phe Thr Cys Thr Ser Phe Gly Ala Ser Arg Ala Ile Val
1905                  1910                  1915                  1920
Trp Leu Gln Asn Arg Arg Glu Ala Thr Val Glu Arg Thr Arg Thr Thr
              1925                  1930                  1935
Ser Ser Val Arg Arg Asp Asp Pro Gly Glu Phe Arg Val Gly Arg Leu
          1940                  1945                  1950
Lys His Glu Arg Val Lys Val Pro Arg Gly Glu Ser Leu Met Glu Trp
          1955                  1960                  1965
Ala Glu Asn Val Met Gln Ile His Ala Asp Arg Lys Ser Val Leu Glu
          1970                  1975                  1980
Val Glu Phe Leu Gly Glu Glu Gly Thr Gly Leu Gly Pro Thr Leu Glu
1985                  1990                  1995                  2000
Phe Tyr Ala Leu Val Ala Ala Glu Phe Gln Arg Thr Asp Leu Gly Ala
              2005                  2010                  2015
Trp Leu Cys Asp Asp Asn Phe Pro Asp Asp Glu Ser Arg His Val Asp
              2020                  2025                  2030
Leu Gly Gly Gly Leu Lys Pro Pro Gly Tyr Tyr Val Gln Arg Ser Cys
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Ile Thr Lys Leu Phe His Phe Leu Gly Ile Phe Leu Ala Lys Cys Ile
2065                 2070                 2075                 2080
Gln Asp Asn Arg Leu Val Asp Leu Pro Ile Ser Lys Pro Phe Phe Lys
                  2085                 2090                 2095
Leu Met Cys Met Gly Asp Ile Lys Ser Asn Met Ser Lys Leu Ile Tyr
            2100                 2105                 2110
Glu Ser Arg Gly Asp Arg Asp Leu His Cys Thr Glu Ser Gln Ser Glu
            2115                 2120                 2125
Ala Ser Thr Glu Glu Gly His Asp Ser Leu Ser Val Gly Ser Phe Glu
            2130                 2135                 2140
Glu Asp Ser Lys Ser Glu Phe Ile Leu Asp Pro Pro Lys Pro Lys Pro
2145                 2150                 2155                 2160
Pro Ala Trp Leu Asn Gly Ile Leu Thr Trp Glu Asp Phe Glu Leu Val
                  2165                 2170                 2175
Asn Pro His Arg Ala Arg Phe Leu Lys Glu Ile Lys Asp Leu Ala Ile
            2180                 2185                 2190
Lys Arg Arg Gln Ile Leu Ser Asn Lys Gly Leu Ser Glu Asp Glu Lys
            2195                 2200                 2205
Asn Thr Lys Leu Gln Glu Leu Val Leu Lys Asn Pro Ser Gly Ser Gly
            2210                 2215                 2220
Pro Pro Leu Ser Ile Glu Asp Leu Gly Leu Asn Phe Gln Phe Cys Pro
2225                 2230                 2235                 2240
Ser Ser Arg Ile Tyr Gly Phe Thr Ala Val Asp Leu Lys Pro Ser Gly
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Glu Asp Glu Met Ile Thr Met Asp Asn Ala Glu Glu Tyr Val Asp Leu
            2260                 2265                 2270
Met Phe Asp Phe Cys Met His Thr Gly Ile Gln Lys Gln Met Glu Ala
            2275                 2280                 2285
Phe Arg Asp Gly Phe Asn Lys Val Phe Pro Met Glu Lys Leu Ser Ser
      2290                 2295                 2300
Phe Ser His Glu Glu Val Gln Met Ile Leu Cys Gly Asn Gln Ser Pro
2305                 2310                 2315                 2320
Ser Trp Ala Ala Glu Asp Ile Ile Asn Tyr Thr Glu Pro Lys Leu Gly
            2325                 2330                 2335
Tyr Thr Arg Asp Ser Pro Gly Phe Leu Arg Phe Val Arg Val Leu Cys
            2340                 2345                 2350
Gly Met Ser Ser Asp Glu Arg Lys Ala Phe Leu Gln Phe Thr Thr Gly
      2355                 2360                 2365
Cys Ser Thr Leu Pro Pro Gly Gly Leu Ala Asn Leu His Pro Arg Leu
      2370                 2375                 2380
Thr Val Val Arg Lys Val Asp Ala Thr Asp Ala Ser Tyr Pro Ser Val
2385                 2390                 2395                 2400
Asn Thr Cys Val His Tyr Leu Lys Leu Pro Glu Tyr Ser Ser Glu Glu
            2405                 2410                 2415
Ile Met Arg Glu Arg Leu Leu Ala Ala Thr Met Glu Lys Gly Phe His
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Leu Asn
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<212> DNA
<213> Homo sapiens

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120
cagttccatt ctcagttctt cctcccagag ctgcagcggc gcctggacga ctggacagct
180
aaccccgca tcggtgacgt gatccagaag ctggccccct tcctgaagat gtacagtgag
240
tatgtcaaga actttgagcg agcggctgag ctgctggcca cctggaccga caagtctcca
300
ctcttccagg aggttctcac tcgcatccag gtgaggctgg gggagggctg gagtcagcat
360
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420
tcagctgctt ccataggccc ctgcctactc gtccggccct caggagcagc ctgacccacc
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533

<210> 4058
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<213> Homo sapiens

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Thr Ala Arg Ser Ser Lys Ala Phe Pro Glu Asp Val Val Arg Val Ile
            20   25   30
Phe Ser Asn Ile Ser Ser Ile Tyr Gln Phe His Ser Gln Phe Phe Leu
            35   40   45
Pro Glu Leu Gln Arg Arg Leu Asp Asp Trp Thr Ala Asn Pro Arg Ile
        50   55   60
Gly Asp Val Ile Gln Lys Leu Ala Pro Phe Leu Lys Met Tyr Ser Glu
65   70   75   80
Tyr Val Lys Asn Phe Glu Arg Ala Ala Glu Leu Leu Ala Thr Trp Thr
                85   90   95
Asp Lys Ser Pro Leu Phe Gln Glu Val Leu Thr Arg Ile Gln Val Arg
                100   105   110
Leu Gly Glu Gly Trp Ser Gln His Cys His Ser Gln His Ala Val Ala
            115   120   125
Gln Val Ala Leu Ser Asp Ser Gly His Leu Pro Gly Ser Ala Ala Ser
        130   135   140
Ile Gly Pro Cys Leu Leu Val Arg Pro Ser Gly Ala Ala
145   150   155

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1320
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1380
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1440
gaggagcagc catacccatg gggaccacgc gactcaatgg acggagagct tggattagac
1500
tctggcccta gtgacagcct gctgatggtg aagaacccac ccccggcccc gccacagccc
1560
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1620
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1860
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1920
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1980
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2100
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2160
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2940
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3000
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3060
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3180
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3960
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3994


<210> 4060
<211> 714
<212> PRT
<213> Homo sapiens


<400> 4060
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Ala Pro Glu Arg Gly Lys Ala Pro Gly Lys Arg Ser Ser Ser Pro Trp
            20                  25                  30
Pro Thr Arg Ala Gly Asn Ser Thr Pro Arg Met Gln Phe Val Ser Thr
        35                  40                  45
Arg Pro Gln Pro Gln Gln Leu Gly Ile Gln Gly Leu Gly Leu Asp Ser
    50                  55                  60
Gly Ser Trp Ser Trp Ala Gln Ala Leu Pro Pro Glu Glu Val Cys His
65                  70                  75                  80
Gln Glu Pro Ala Leu Arg Gly Glu Met Ala Glu Gly Met Pro Pro Met
                85                  90                  95
Gln Ala Gln Glu Trp Asp Met Asp Ala Arg Arg Pro Met Pro Phe Gln
            100                 105                 110
Phe Pro Pro Phe Pro Asp Arg Ala Pro Val Phe Pro Asp Arg Met Met
        115                 120                 125
Arg Glu Pro Gln Leu Pro Thr Ala Glu Ile Ser Leu Trp Thr Val Val
    130                 135                 140
Ala Ala Ile Gln Ala Met Glu Arg Lys Ile Glu Ser Gln Ala Ala His
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3246

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145                    150                    155                    160
Leu Leu Ser Leu Glu Gly Gln Thr Gly Met Ala Glu Lys Lys Leu Ala
                165                    170                    175
Asp Cys Glu Lys Thr Ala Val Glu Phe Gly Asn Gln Leu Glu Gly Lys
            180                    185                    190
Trp Ala Val Leu Gly Thr Leu Leu Gln Glu Tyr Gly Leu Leu Gln Arg
        195                    200                    205
Arg Leu Glu Asn Val Glu Asn Leu Leu Arg Asn Arg Asn Phe Trp Val
    210                    215                    220
Leu Arg Leu Pro Pro Gly Ser Lys Gly Glu Ala Pro Lys Val Pro Val
225                    230                    235                    240
Thr Phe Val Asp Ile Ala Val Tyr Phe Ser Glu Asp Glu Trp Lys Asn
                245                    250                    255
Leu Asp Glu Trp Gln Lys Glu Leu Tyr Asn Asn Leu Val Lys Glu Asn
            260                    265                    270
Tyr Lys Thr Leu Met Ser Leu Asp Ala Glu Gly Ser Val Pro Lys Pro
        275                    280                    285
Asp Ala Pro Val Gln Ala Glu Pro Arg Glu Glu Pro Cys Val Trp Glu
    290                    295                    300
Gln Arg His Pro Glu Glu Arg Glu Ile Pro Met Asp Pro Glu Ala Gly
305                    310                    315                    320
Ala Glu Pro Leu Val Pro Ala Gln Asp Ala Ser Ser Gln Val Lys Arg
                325                    330                    335
Glu Asp Thr Leu Cys Val Arg Gly Gln Arg Gly Leu Glu Glu Arg Ala
            340                    345                    350
Ile Pro Thr Glu Ser Ile Thr Val Asp Ser Pro Ile Ser Ala Gln Asp
        355                    360                    365
Leu Leu Ser Arg Ile Lys Gln Glu Glu His Gln Cys Val Trp Asp Gln
    370                    375                    380
Gln Asp Leu Ala Asp Arg Asp Ile Pro Thr Asp Pro Asn Ser Glu Ser
385                    390                    395                    400
Leu Ile Ser Ala His Asp Ile Leu Ser Trp Ile Lys Gln Glu Glu Gln
            405                    410                    415
Pro Tyr Pro Trp Gly Pro Arg Asp Ser Met Asp Gly Glu Leu Gly Leu
        420                    425                    430
Asp Ser Gly Pro Ser Asp Ser Leu Leu Met Val Lys Asn Pro Pro Pro
    435                    440                    445
Ala Pro Pro Gln Pro Gln Pro Gln Pro Pro Gln Pro Gln Leu
450                    455                    460
Gln Ser Gln Pro Gln Pro Gln Ser Leu Pro Pro Ile Ala Val Ala Glu
465                    470                    475                    480
Asn Pro Gly Gly Pro Pro Ser Arg Gly Leu Leu Asp Asp Gly Phe Gln
            485                    490                    495
Val Leu Pro Gly Glu Arg Gly Ser Gly Glu Ala Pro Pro Gly Gly Asp
        500                    505                    510
Arg Ser Thr Gly Gly Gly Gly Asp Gly Gly Gly Gly Gly Gly
    515                    520                    525
Ala Glu Ala Gly Thr Gly Ala Gly Gly Gly Cys Gly Ser Cys Cys Pro
    530                    535                    540
Gly Gly Leu Arg Arg Ser Leu Leu Leu His Gly Ala Arg Ser Lys Pro
545                    550                    555                    560
Tyr Ser Cys Pro Glu Cys Gly Lys Ser Phe Gly Val Arg Lys Ser Leu
                565                    570                    575
Ile Ile His His Arg Ser His Thr Lys Glu Arg Pro Tyr Glu Cys Ala
```

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               580                    585                    590
Glu Cys Glu Lys Ser Phe Asn Cys His Ser Gly Leu Ile Arg His Gln
           595                    600                    605
Met Thr His Arg Gly Glu Arg Pro Tyr Lys Cys Ser Glu Cys Glu Lys
       610                    615                    620
Thr Tyr Ser Arg Lys Glu His Leu Gln Asn His Gln Arg Leu His Thr
625                    630                    635                    640
Gly Glu Arg Pro Phe Gln Cys Ala Leu Cys Gly Lys Ser Phe Ile Arg
                   645                    650                    655
Lys Gln Asn Leu Leu Lys His Gln Arg Ile His Thr Gly Glu Arg Pro
               660                    665                    670
Tyr Thr Cys Gly Glu Cys Gly Lys Ser Phe Arg Tyr Lys Glu Ser Leu
           675                    680                    685
Lys Asp His Leu Arg Val His Ser Gly Gly Pro Gly Pro Gly Ala Pro
       690                    695                    700
Arg Gln Leu Pro Pro Pro Pro Glu Arg Asp
705                    710
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<210> 4061
<211> 519
<212> DNA
<213> Homo sapiens

<400> 4061
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120
gcttgcagct ataatacctc tggtggtcaa gagtgtcaag tgtgcaacgg tactgtcaga
180
cattttgcgc agatgcactc tgaccactcc tggcatggtg ggacttcatg ggaggaggaa
240
ctctggtaag ctcatgtcac tggacaaagc ccccttgagg caactcttgg atgccacgat
300
cggggcctac atcaacacaa cgcactcacg gctcacacac atcagtcctc ggcactatag
360
tgagtttata gagttcctca gcaaagcccg agagaccttc ttaatggcgc atgatggaca
420
cattcagttt acacagttta ttgacaacct gaaacaaatc tacaaaggca aaaagaaact
480
gatgatgttg gttcggagag aggtttggtt gatagatct
519


<210> 4062
<211> 165
<212> PRT
<213> Homo sapiens

<400> 4062
Met Thr His Leu Asn Leu Ser Tyr Asn Gln Asp Thr His Pro Ala Ile
1                5                   10                  15
Asn Asp Val Leu Trp Ala Cys Ala Leu Ser His Ser Leu Gly Lys Asn
               20                   25                  30
Glu Leu Ala Ala Ile Ile Pro Leu Val Val Lys Ser Val Lys Cys Ala
```

```
           35                    40                    45
Thr Val Leu Ser Asp Ile Leu Arg Arg Cys Thr Leu Thr Thr Pro Gly
           50                    55                    60
Met Val Gly Leu His Gly Arg Arg Asn Ser Gly Lys Leu Met Ser Leu
65                    70                    75                    80
Asp Lys Ala Pro Leu Arg Gln Leu Leu Asp Ala Thr Ile Gly Ala Tyr
                    85                    90                    95
Ile Asn Thr Thr His Ser Arg Leu Thr His Ile Ser Pro Arg His Tyr
                    100                   105                   110
Ser Glu Phe Ile Glu Phe Leu Ser Lys Ala Arg Glu Thr Phe Leu Met
           115                   120                   125
Ala His Asp Gly His Ile Gln Phe Thr Gln Phe Ile Asp Asn Leu Lys
           130                   135                   140
Gln Ile Tyr Lys Gly Lys Lys Lys Leu Met Met Leu Val Arg Arg Glu
145                   150                   155                   160
Val Trp Leu Ile Asp
                    165
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<210> 4063
<211> 4137
<212> DNA
<213> Homo sapiens
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<400> 4063
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180
aggaacatcc gccccaacat catcttggtg cttacggatg accaggatgt ggagctgggt
240
tccatgcaag tgatgaacaa gacaaggcgt atcatggagc agggcgggac gcacttcatc
300
aacgccttcg tgaccacacc catgtgctgc ccctcacgct cctccatcct caccggcaag
360
tacgtccaca accacaacac ctacaccaac aatgagaact gctcctcgcc ctcctggcag
420
gcccagcacg agagccgcac cttcgccgtg tacctcaata gcactggcta ccggacagct
480
ttcttcggga agtatcttaa tgaatacaac ggctcctacg tgccacccgg ctggaaggag
540
tgggtcggac tccttaaaaa ctcccgcttt tataactaca cgctgtgtcg gaacggggtg
600
aaagagaagc acggctccga ctactccaag gattacctca cagacctcat caccaatgac
660
agcgtgagct tcttccgcac gtccaagaag atgtacccgc acaggccagt cctcatggtc
720
atcagccatg cagcccccca cggccctgag gattcagccc cacaatattc acgcctcttc
780
ccaaacgcat ctcagcacat cacgccgagc tacaactacg cgcccgaccc ggacaaacac
840
tggatcatgc gctacacggg gcccatgaag cccatccaca tggaattcac caacatgctc
900
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cagcggaagc gcttgcagac cctcatgtcg gtggacgact ccatggagac gatttacaac
960
atgctggttg agacgggcga gctggacaac acgtacatcg tatacaccgc cgaccacggt
1020
taccacatcg gccagtttgg cctggtgaaa gggaaatcca tgccatatga gtttgacatc
1080
agggtcccgt tctacgtgag gggccccaac gtggaagccg gctgtctgaa tccccacatc
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gatatggacg ggaaatccat cctcaagctg ctggacacgg agcggccggt gaatcggttt
1260
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1680
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2040
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2100
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2280
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2340
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2400
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2460
ctggacaggg atgtcctcaa ccagctacac gtgcagctca tggagctgag gagctgcaag
2520

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2580
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2640
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2700
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2760
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2820
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4137
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<210> 4064
<211> 818
<212> PRT
<213> Homo sapiens

<400> 4064
Asp Val Glu Leu Gly Ser Met Gln Val Met Asn Lys Thr Arg Arg Ile
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Met Glu Gln Gly Gly Thr His Phe Ile Asn Ala Phe Val Thr Thr Pro
                20   25   30
Met Cys Cys Pro Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His
            35   40   45
Asn His Asn Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp
        50   55   60
Gln Ala Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr
65   70   75   80
Gly Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly
                    85   90   95
Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys Asn
                100   105   110
Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys Glu Lys
            115   120   125
His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu Ile Thr Asn
    130   135   140
Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met Tyr Pro His Arg
145   150   155   160
Pro Val Leu Met Val Ile Ser His Ala Ala Pro His Gly Pro Glu Asp
                165   170   175
Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro Asn Ala Ser Gln His Ile
            180   185   190
Thr Pro Ser Tyr Asn Tyr Ala Pro Asp Pro Asp Lys His Trp Ile Met
            195   200   205
Arg Tyr Thr Gly Pro Met Lys Pro Ile His Met Glu Phe Thr Asn Met
    210   215   220
Leu Gln Arg Lys Arg Leu Gln Thr Leu Met Ser Val Asp Asp Ser Met
225   230   235   240
Glu Thr Ile Tyr Asn Met Leu Val Glu Thr Gly Glu Leu Asp Asn Thr
                245   250   255
Tyr Ile Val Tyr Thr Ala Asp His Gly Tyr His Ile Gly Gln Phe Gly
                260   265   270
Leu Val Lys Gly Lys Ser Met Pro Tyr Glu Phe Asp Ile Arg Val Pro
            275   280   285
Phe Tyr Val Arg Gly Pro Asn Val Glu Ala Gly Cys Leu Asn Pro His
    290   295   300
Ile Val Leu Asn Ile Asp Leu Ala Pro Thr Ile Leu Asp Ile Ala Gly
305   310   315   320
Leu Asp Ile Pro Ala Asp Met Asp Gly Lys Ser Ile Leu Lys Leu Leu
            325   330   335
Asp Thr Glu Arg Pro Val Asn Arg Phe His Leu Lys Lys Lys Met Arg
            340   345   350
Val Trp Arg Asp Ser Phe Leu Val Glu Arg Gly Lys Leu Leu His Lys
    355   360   365
Arg Asp Asn Asp Lys Val Asp Ala Gln Glu Glu Asn Phe Leu Pro Lys

```
            370                   375                   380
Tyr Gln Arg Val Lys Asp Leu Cys Gln Arg Ala Glu Tyr Gln Thr Ala
385                   390                   395                   400
Cys Glu Gln Leu Gly Gln Lys Trp Gln Cys Val Glu Asp Ala Thr Gly
                    405                   410                   415
Lys Leu Lys Leu His Lys Cys Lys Gly Pro Met Arg Leu Gly Gly Ser
                420                   425                   430
Arg Ala Leu Ser Asn Leu Val Pro Lys Tyr Tyr Gly Gln Gly Ser Glu
            435                   440                   445
Ala Cys Thr Cys Asp Ser Gly Asp Tyr Lys Leu Ser Leu Ala Gly Arg
        450                   455                   460
Arg Lys Lys Xaa Leu Gln Glu Glu Xaa Tyr Lys Ala Ser Tyr Val Arg
465                   470                   475                   480
Asn Arg Ser Ile Arg Ser Val Ala Ile Glu Val Asp Gly Arg Val Tyr
                485                   490                   495
His Val Gly Leu Gly Asp Ala Ala Gln Pro Arg Asn Leu Thr Lys Arg
                500                   505                   510
His Trp Pro Gly Ala Pro Glu Asp Gln Asp Asp Lys Asp Gly Gly Asp
            515                   520                   525
Xaa Ser Val Ala Leu Glu Ala Phe Pro Thr Thr Gln Pro Pro Thr Xaa
        530                   535                   540
Ile Lys Val Thr His Arg Cys Tyr Ile Leu Glu Asn Asp Thr Val Gln
545                   550                   555                   560
Cys Asp Leu Asp Leu Tyr Lys Ser Leu Gln Ala Trp Lys Asp His Lys
                565                   570                   575
Leu His Ile Asp His Glu Ile Glu Thr Leu Gln Asn Lys Ile Lys Asn
                580                   585                   590
Leu Arg Glu Val Arg Gly His Leu Lys Lys Lys Arg Pro Glu Glu Cys
            595                   600                   605
Asp Cys His Lys Ile Ser Tyr His Thr Gln His Lys Gly Arg Leu Lys
        610                   615                   620
His Arg Gly Ser Ser Leu His Pro Phe Arg Lys Gly Leu Gln Glu Lys
625                   630                   635                   640
Asp Lys Val Trp Leu Leu Arg Glu Gln Lys Arg Lys Lys Leu Arg
                645                   650                   655
Lys Leu Leu Lys Arg Leu Gln Asn Asn Asp Thr Cys Ser Met Pro Gly
                660                   665                   670
Leu Thr Cys Phe Thr His Asp Asn Gln His Trp Gln Thr Ala Pro Phe
            675                   680                   685
Trp Thr Leu Gly Pro Phe Cys Ala Cys Thr Ser Ala Asn Asn Asn Thr
        690                   695                   700
Tyr Trp Cys Met Arg Thr Ile Asn Glu Thr His Asn Phe Leu Phe Cys
705                   710                   715                   720
Glu Phe Ala Thr Gly Phe Leu Glu Tyr Phe Asp Leu Asn Thr Asp Pro
                725                   730                   735
Tyr Gln Leu Met Asn Ala Val Asn Thr Leu Asp Arg Asp Val Leu Asn
                740                   745                   750
Gln Leu His Val Gln Leu Met Glu Leu Arg Ser Cys Lys Gly Tyr Lys
            755                   760                   765
Gln Cys Asn Pro Arg Thr Arg Asn Met Asp Leu Gly Leu Lys Asp Gly
        770                   775                   780
Gly Ser Tyr Glu Gln Tyr Arg Gln Phe Gln Arg Arg Lys Trp Pro Glu
785                   790                   795                   800
Met Lys Arg Pro Ser Ser Lys Ser Leu Gly Gln Leu Trp Glu Gly Trp
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3253

Glu Gly

<210> 4065
<211> 696
<212> DNA
<213> Homo sapiens

<400> 4065
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120
cttgtaaatg aagtgaattt cccattgcta ctaaactgct ttggacaacc tggtacaaag
180
tggataccat tctcctacac atacaggcgg ccccttcgaa ctcactatgg atacataaat
240
gtgaagacac aagagccttt gcaactggac tgtgaccttt gtgccatagt gtcaaactca
300
ggtcagatgg ttggccagaa ggtgggaaat gagatagatc gatcctcctg catttggaga
360
atgaacaatg cccccaccaa aggttatgaa gaagatgtcg gccgcatgac catgattcga
420
gttgtgtccc ataccagcgt tcctcttttg ctaaaaaacc ctgattattt tttcaaggaa
480
gcgaatacta ctatttatgt tatttgggga cctttccgca atatgaggaa agatggcaat
540
ggcatcgtnt acaacatgtt gaaaaagaca gttggtatct atccgaatgc ccaaatatac
600
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660
gacagtacag agtgaccatg cagtgttgat tgatca
696

<210> 4066
<211> 210
<212> PRT
<213> Homo sapiens

<400> 4066
Met Ala Cys Ile Leu Lys Arg Lys Ser Val Ile Ala Val Ser Phe Ile
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Ala Ala Phe Leu Phe Leu Leu Val Val Arg Leu Val Asn Glu Val Asn
                20   25   30
Phe Pro Leu Leu Leu Asn Cys Phe Gly Gln Pro Gly Thr Lys Trp Ile
            35   40   45
Pro Phe Ser Tyr Thr Tyr Arg Arg Pro Leu Arg Thr His Tyr Gly Tyr
        50   55   60
Ile Asn Val Lys Thr Gln Glu Pro Leu Gln Leu Asp Cys Asp Leu Cys
65   70   75   80
Ala Ile Val Ser Asn Ser Gly Gln Met Val Gly Gln Lys Val Gly Asn
                85   90   95
Glu Ile Asp Arg Ser Ser Cys Ile Trp Arg Met Asn Asn Ala Pro Thr

```
                  100                   105                   110
     Lys Gly Tyr Glu Glu Asp Val Gly Arg Met Thr Met Ile Arg Val Val
              115                   120                   125
     Ser His Thr Ser Val Pro Leu Leu Leu Lys Asn Pro Asp Tyr Phe Phe
          130                   135                   140
     Lys Glu Ala Asn Thr Thr Ile Tyr Val Ile Trp Gly Pro Phe Arg Asn
     145                   150                   155                   160
     Met Arg Lys Asp Gly Asn Gly Ile Val Tyr Asn Met Leu Lys Lys Thr
                  165                   170                   175
     Val Gly Ile Tyr Pro Asn Ala Gln Ile Tyr Val Thr Thr Glu Lys Arg
                  180                   185                   190
     Met Ser Tyr Cys Asp Gly Val Leu Arg Arg Lys Xaa Gly Lys Asp Ser
              195                   200                   205
     Thr Glu
          210
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<210> 4067
<211> 1800
<212> DNA
<213> Homo sapiens

<400> 4067
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60
actccttcta cagctaatgg gaatgacagc aagaaattta aacgagatag acctccctgt
120
tcgccttccc gtgttctcca tcttcgaaaa attccatgtg atgtcaccga agcagagatc
180
atatcattag gtctaccatt tggcaaagta actaatcttt tgatgttgaa aggaaaaagc
240
caggctttct tagaaatggc ttctgaggaa gctgccgtta ctatggtgaa ttattacact
300
cctattactc ctcaccttcg aagccagcct gtttatattc agtattccaa tcacagagaa
360
cttaagactg acaatctacc taatcaagct cgagcccaag ctgcactgca ggctgtcagt
420
gccgtccaat caggaagcct ggccctttct ggaggtcctt ccaatgaagg cacagtccta
480
cctgggcaga gccctgtgct tcgaataatt attgaaaacc tcttttaccc tgttaccctg
540
gaagttcttc atcagatatt ttctaaattt ggcacagtct tgaagattat cacctttaca
600
aagaataatc agtttcaagc cttgcttcag tatgctgacc cagtaaatgc acattatgcc
660
aaaatggctc tggatggcca gaatatctat aatgcatgct gcactctgcg cattgacttc
720
tccaagctca ccagccttaa tgtgaaatat aataatgaca aaagcagaga cttcactcgc
780
ttagaccttc ctactggtga tggccagcca tcccttgaac ccctatggc tgctgctttt
840
ggtgcaccgg gtataatttc ttcaccatat gcaggggctg ctggatttgc cccagccatt
900
ggatttcctc aagctacagg tctatcagtt ccagctgttc ctggagctct tggtcctctc
960
```

```
acaatcacct cttctgctgt cactggaagg atggccattc ctggggctag tggtatacca
1020

ggaaattctg ttctactcgt cacaaatctc aatcctgatc ttatcacacc acatgggctt
1080

tttatcctat ttggagtcta tggtgatgta catcgagtga agattatgtt taataagaaa
1140

gaaaatgcct tggttcagat ggcggatgca aatcaagctc agctagcaat gaaccatcta
1200

agtggtcaga gactttatgg gaaagtgctt cgtgctacac tgtccaaaca tcaagcagta
1260

cagcttcctc gagagggaca agaagaccaa ggtctgacta aggatttcag caatagtcct
1320

ttgcatcgct ttaaaaagcc gggctctaaa aacttccaga atatctttcc accatcagcc
1380

actctgcatc tttccaacat tcccccttct gttacagtgg atgatctgaa gaaccttttc
1440

atagaagctg gatgttcagt gaaggctttt aaattctttc agaaagatcg caaaatggcg
1500

ctcattcaat tgggatctgt ggaagaagca attcaggccc tcattgagct tcataaccat
1560

gaccttggag aaaatcacca cctcagagtt tccttctcaa aatctacaat ctgacttttc
1620

tgtgaatttt tctcctaaaa ctggaccata atttcagtaa aaccttcaga catagactga
1680

agcagctcaa gaccaatttt gcctctttca caaaaataac tctttctgag tttgatattc
1740

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<210> 4068
<211> 521
<212> PRT
<213> Homo sapiens


<400> 4068
Met Asn Ser Ser Thr Pro Ser Thr Ala Asn Gly Asn Asp Ser Lys Lys
  1               5              10              15
Phe Lys Arg Asp Arg Pro Cys Ser Pro Ser Arg Val Leu His Leu
             20          25              30
Arg Lys Ile Pro Cys Asp Val Thr Glu Ala Glu Ile Ile Ser Leu Gly
         35              40              45
Leu Pro Phe Gly Lys Val Thr Asn Leu Leu Met Leu Lys Gly Lys Ser
     50              55              60
Gln Ala Phe Leu Glu Met Ala Ser Glu Glu Ala Ala Val Thr Met Val
65              70              75              80
Asn Tyr Tyr Thr Pro Ile Thr Pro His Leu Arg Ser Gln Pro Val Tyr
             85              90              95
Ile Gln Tyr Ser Asn His Arg Glu Leu Lys Thr Asp Asn Leu Pro Asn
             100             105             110
Gln Ala Arg Ala Gln Ala Ala Leu Gln Ala Val Ser Ala Val Gln Ser
         115             120             125
Gly Ser Leu Ala Leu Ser Gly Gly Pro Ser Asn Glu Gly Thr Val Leu
     130             135             140
Pro Gly Gln Ser Pro Val Leu Arg Ile Ile Ile Glu Asn Leu Phe Tyr
```

3256

```
145              150              155              160
Pro Val Thr Leu Glu Val Leu His Gln Ile Phe Ser Lys Phe Gly Thr
              165                      170              175
Val Leu Lys Ile Ile Thr Phe Thr Lys Asn Asn Gln Phe Gln Ala Leu
              180                      185              190
Leu Gln Tyr Ala Asp Pro Val Asn Ala His Tyr Ala Lys Met Ala Leu
              195                      200              205
Asp Gly Gln Asn Ile Tyr Asn Ala Cys Cys Thr Leu Arg Ile Asp Phe
      210                      215              220
Ser Lys Leu Thr Ser Leu Asn Val Lys Tyr Asn Asn Asp Lys Ser Arg
225                      230              235              240
Asp Phe Thr Arg Leu Asp Leu Pro Thr Gly Asp Gly Gln Pro Ser Leu
              245                      250              255
Glu Pro Pro Met Ala Ala Ala Phe Gly Ala Pro Gly Ile Ile Ser Ser
              260                      265              270
Pro Tyr Ala Gly Ala Ala Gly Phe Ala Pro Ala Ile Gly Phe Pro Gln
              275                      280              285
Ala Thr Gly Leu Ser Val Pro Ala Val Pro Gly Ala Leu Gly Pro Leu
      290                      295              300
Thr Ile Thr Ser Ser Ala Val Thr Gly Arg Met Ala Ile Pro Gly Ala
305                      310                      315             320
Ser Gly Ile Pro Gly Asn Ser Val Leu Leu Val Thr Asn Leu Asn Pro
              325                      330              335
Asp Leu Ile Thr Pro His Gly Leu Phe Ile Leu Phe Gly Val Tyr Gly
              340                      345              350
Asp Val His Arg Val Lys Ile Met Phe Asn Lys Lys Glu Asn Ala Leu
              355                      360              365
Val Gln Met Ala Asp Ala Asn Gln Ala Gln Leu Ala Met Asn His Leu
      370                      375              380
Ser Gly Gln Arg Leu Tyr Gly Lys Val Leu Arg Ala Thr Leu Ser Lys
385                      390                      395             400
His Gln Ala Val Gln Leu Pro Arg Glu Gly Gln Glu Asp Gln Gly Leu
              405                      410              415
Thr Lys Asp Phe Ser Asn Ser Pro Leu His Arg Phe Lys Lys Pro Gly
              420                      425              430
Ser Lys Asn Phe Gln Asn Ile Phe Pro Pro Ser Ala Thr Leu His Leu
              435                      440              445
Ser Asn Ile Pro Pro Ser Val Thr Val Asp Asp Leu Lys Asn Leu Phe
      450                      455              460
Ile Glu Ala Gly Cys Ser Val Lys Ala Phe Lys Phe Phe Gln Lys Asp
465                      470                      475             480
Arg Lys Met Ala Leu Ile Gln Leu Gly Ser Val Glu Glu Ala Ile Gln
              485                      490              495
Ala Leu Ile Glu Leu His Asn His Asp Leu Gly Glu Asn His His Leu
      500                      505                      510
Arg Val Ser Phe Ser Lys Ser Thr Ile
              515                      520
```

<210> 4069
<211> 714
<212> DNA
<213> Homo sapiens

<400> 4069

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gaatggctga agatgtcata ccctgccaag gtaaccctgc tggggtcagt tatcttcaca
120
ttccagcaca cccagcatct ggcaatatca aagcataatc ttatgttcct ttataccatc
180
tttattgtgg ccacaaagat aaccatgatg actacacaga cttctactat gacatttgct
240
ccttttgagg atacattgag ttggatgcta tttggctggc agcagccgtt ttcatcatgt
300
gagaagaaaa gtgaagcaaa gtcaccttcc aatggcgttg ggtcattggc ctcaaagccg
360
gtagatgttg cctcagataa tgttaaaaag aaacatacta gaagaatga ataaatttac
420
gtgatgagct ctacaaggcc aaaaattttt tttcttatct acctgttata ttgtgctaat
480
ttttctatgt atgtgatgtg aaatgaagac tatatatatg gaatggaggt gacagaaaga
540
aagaaattct ttgtttgagg gagacttccc ctttctggat tgtatttgta gagtgttacg
600
agtgtatcat gtgattatgc tttaccggta taagagattc tgttgtgatt atttgaatag
660
ttttatatta ataaaagaag acaaaatttt ttaaatgtta aaaaaagcag atct
714
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```
<210> 4070
<211> 113
<212> PRT
<213> Homo sapiens

<400> 4070
Met Ser Tyr Pro Ala Lys Val Thr Leu Leu Gly Ser Val Ile Phe Thr
 1               5                  10                  15
Phe Gln His Thr Gln His Leu Ala Ile Ser Lys His Asn Leu Met Phe
            20                  25                  30
Leu Tyr Thr Ile Phe Ile Val Ala Thr Lys Ile Thr Met Met Thr Thr
        35                  40                  45
Gln Thr Ser Thr Met Thr Phe Ala Pro Phe Glu Asp Thr Leu Ser Trp
    50                  55                  60
Met Leu Phe Gly Trp Gln Gln Pro Phe Ser Ser Cys Glu Lys Lys Ser
65                  70                  75                  80
Glu Ala Lys Ser Pro Ser Asn Gly Val Gly Ser Leu Ala Ser Lys Pro
                85                  90                  95
Val Asp Val Ala Ser Asp Asn Val Lys Lys Lys His Thr Lys Lys Asn
            100                 105                 110
Glu
```

```
<210> 4071
<211> 601
<212> DNA
<213> Homo sapiens

<400> 4071
```

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ggtcctggag gaggaaggcc tctggtgctc acttcaaagg catcgagaag aacttgttcc
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cagacttgca gcggacttgc tcagtgtgca cgcgcagcag cacctcagca tcttcaaacc
120
catccacgat tgcctgtagt tcctgcaggc actgcccctc cagctggaga cgtgcatcac
180
ccacacacca ggccaggctg aggtggaaag aaggatcctg gtagaaagtg gtgaggttga
240
attcctccat gactctgtcc acctctgaaa ccaggtccag gaactgggca tgccctgaag
300
tgacctcaag cccaataaag gtcctggttt tctcttgatt ggtgtaaatc tttacctggt
360
tggcagtaaa gaagaatctg tggaaggagg tcatacgggc tttcagagcc tgcacgaagg
420
ggaggatcca gtggtggcgc agaaccacac tctgggacag gctgaggtgg aacaccttca
480
tccttaccag ccggggggacg agtgcgcacc ttcccccacg agcgaggcaa ctgggccacc
540
cacgtctatg taccatatga agccaaggag gagttcctgg atctgcttga tgtgttgctg
600
c
601
```

```
<210> 4072
<211> 175
<212> PRT
<213> Homo sapiens
```

```
<400> 4072
Met Val His Arg Arg Gly Trp Pro Ser Cys Leu Ala Arg Gly Gly Arg
 1               5                  10                  15
Cys Ala Leu Val Pro Arg Leu Val Arg Met Lys Val Phe His Leu Ser
                20                  25                  30
Leu Ser Gln Ser Val Val Leu Arg His His Trp Ile Leu Pro Phe Val
            35                  40                  45
Gln Ala Leu Lys Ala Arg Met Thr Ser Phe His Arg Phe Phe Phe Thr
        50                  55                  60
Ala Asn Gln Val Lys Ile Tyr Thr Asn Gln Glu Lys Thr Arg Thr Phe
65                  70                  75                  80
Ile Gly Leu Glu Val Thr Ser Gly His Ala Gln Phe Leu Asp Leu Val
                85                  90                  95
Ser Glu Val Asp Arg Val Met Glu Glu Phe Asn Leu Thr Thr Phe Tyr
            100                 105                 110
Gln Asp Pro Ser Phe His Leu Ser Leu Ala Trp Cys Val Gly Asp Ala
            115                 120                 125
Arg Leu Gln Leu Glu Gly Gln Cys Leu Gln Glu Leu Gln Ala Ile Val
        130                 135                 140
Asp Gly Phe Glu Asp Ala Glu Val Leu Leu Arg Val His Thr Glu Gln
145                 150                 155                 160
Val Arg Cys Lys Ser Gly Asn Lys Phe Phe Ser Met Pro Leu Lys
                165                 170                 175
```

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<210> 4073
<211> 1864
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```
<212> DNA
<213> Homo sapiens

<400> 4073
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gcctgcaccg cagtccgggg atcgggtcga ggggagaaga aaaaggggtg ctcgggagca
120
gcccccggct acctcccctg gaggcacaga gggcgggggc cttggcgaat ggctttcttg
180
ctggccactt gcggagtgag tagaccccga gggtctggga gaggggccgg cccctacccc
240
tgagtccccg gggtcccggc cgccaggccg gagcgcgaat gtcgtgctca ccctgcctcc
300
ttcccgccgc ccctggggg tttggattca ggatttgttc ctagtgtcca agattttgat
360
aagaaactta cagaagctga tgcttaccta caaatcttga ttgaacaatt aaagcttttt
420
gatgacaagc ttcaaaactg caaagaagat gaacagagaa agaaaattga aactctcaaa
480
gagacaacaa atagcatggt agaatcaatt aaacactgca ttgtgttgct gcagattgcc
540
aaagaccaga gtaatgcgga gaagcacgca gatggaatga taagtactat taatcccgta
600
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660
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720
gttggacctg tgttggctac cttgggacat catcagactc ctacaccaaa tagtacaggc
780
agtggccatt caccaccgag tagcagtctc acttctccaa gccacgtgaa cttgtctcca
840
aatacagtcc cagagttctc ttactccagc agtgaagatg aattttatga tgctgatgaa
900
ttccatcaaa gtggctcatc cccaaagcgc ttaatagatt cttctggatc tgcctcagtc
960
ctgacacaca gcagctcggg aaatagtcta aaacgcccag ataccacaga atcacttaat
1020
tcttccttgt ccaatggaac aagtgatgct gacctgtttg attcacatga tgacagagat
1080
gatgatgcgg aggcagggtc tgtggaggag cacaagagcg ttatcatgca tctcttgtcg
1140
caggttagac ttggaatgga tcttactaag gtagttcttc caacgtttat tcttgaaaga
1200
agatctcttt tagaaatgta tgcagacttt tttgcacatc cggacctgtt tgtgagcatt
1260
agtgaccaga aggatcccaa ggatcgaatg gttcaggttg tgaaatggta cctctcagcc
1320
tttcatgcgg gaaggaaagg atcagttgcc aaaaagccat acaatcccat tttgggcgag
1380
atttttcagt gtcattggac attaccaaat gatactgaag agaacacaga actagtttca
1440
gaaggaccag ttccctgggt ttccaaaaac agtgtaacat ttgtggctga gcaggtttcc
1500
```

```
catcatccac ccatttcagc cttttatgct gagtgtttta acaagaagat acaattcaat
1560
gctcatatct ggaccaaatc aaaattcctt gggatgtcaa ttggggtgca caacataggg
1620
cagggctgtg tctcatgtct agactatgat gaacattaca ttctcacatt ccccaatggc
1680
tatggaaggt ctatcctcac agtgccctgg gtggaattag gaggagaatg caatattaat
1740
tgttccaaaa caggctatag tgcaaatatc atcttccaca ctaaaccctt ctatgggggc
1800
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1860
attg
1864


<210> 4074
<211> 456
<212> PRT
<213> Homo sapiens

<400> 4074
Met Val Glu Ser Ile Lys His Cys Ile Val Leu Leu Gln Ile Ala Lys
1               5                   10                  15
Asp Gln Ser Asn Ala Glu Lys His Ala Asp Gly Met Ile Ser Thr Ile
                20                  25                  30
Asn Pro Val Asp Ala Ile Tyr Gln Pro Ser Pro Leu Glu Pro Val Ile
            35                  40                  45
Ser Thr Met Pro Ser Gln Thr Val Leu Pro Pro Glu Pro Val Gln Leu
        50                  55                  60
Cys Lys Ser Glu Gln Arg Pro Ser Ser Leu Pro Val Gly Pro Val Leu
65                  70                  75                  80
Ala Thr Leu Gly His His Gln Thr Pro Thr Pro Asn Ser Thr Gly Ser
                85                  90                  95
Gly His Ser Pro Pro Ser Ser Ser Leu Thr Ser Pro Ser His Val Asn
                100                 105                 110
Leu Ser Pro Asn Thr Val Pro Glu Phe Ser Tyr Ser Ser Ser Glu Asp
            115                 120                 125
Glu Phe Tyr Asp Ala Asp Glu Phe His Gln Ser Gly Ser Ser Pro Lys
        130                 135                 140
Arg Leu Ile Asp Ser Ser Gly Ser Ala Ser Val Leu Thr His Ser Ser
145                 150                 155                 160
Ser Gly Asn Ser Leu Lys Arg Pro Asp Thr Thr Glu Ser Leu Asn Ser
                165                 170                 175
Ser Leu Ser Asn Gly Thr Ser Asp Ala Asp Leu Phe Asp Ser His Asp
            180                 185                 190
Asp Arg Asp Asp Asp Ala Glu Ala Gly Ser Val Glu Glu His Lys Ser
        195                 200                 205
Val Ile Met His Leu Leu Ser Gln Val Arg Leu Gly Met Asp Leu Thr
    210                 215                 220
Lys Val Val Leu Pro Thr Phe Ile Leu Glu Arg Arg Ser Leu Leu Glu
225                 230                 235                 240
Met Tyr Ala Asp Phe Phe Ala His Pro Asp Leu Phe Val Ser Ile Ser
                245                 250                 255
Asp Gln Lys Asp Pro Lys Asp Arg Met Val Gln Val Val Lys Trp Tyr
```

```
                 260                    265                    270
    Leu Ser Ala Phe His Ala Gly Arg Lys Gly Ser Val Ala Lys Lys Pro
            275                    280                    285
    Tyr Asn Pro Ile Leu Gly Glu Ile Phe Gln Cys His Trp Thr Leu Pro
        290                    295                    300
    Asn Asp Thr Glu Glu Asn Thr Glu Leu Val Ser Glu Gly Pro Val Pro
    305                    310                    315                    320
    Trp Val Ser Lys Asn Ser Val Thr Phe Val Ala Glu Gln Val Ser His
                325                    330                    335
    His Pro Pro Ile Ser Ala Phe Tyr Ala Glu Cys Phe Asn Lys Lys Ile
                340                    345                    350
    Gln Phe Asn Ala His Ile Trp Thr Lys Ser Lys Phe Leu Gly Met Ser
            355                    360                    365
    Ile Gly Val His Asn Ile Gly Gln Gly Cys Val Ser Cys Leu Asp Tyr
        370                    375                    380
    Asp Glu His Tyr Ile Leu Thr Phe Pro Asn Gly Tyr Gly Arg Ser Ile
    385                    390                    395                    400
    Leu Thr Val Pro Trp Val Glu Leu Gly Gly Glu Cys Asn Ile Asn Cys
                405                    410                    415
    Ser Lys Thr Gly Tyr Ser Ala Asn Ile Ile Phe His Thr Lys Pro Phe
                420                    425                    430
    Tyr Gly Gly Lys Lys His Arg Ile Thr Ala Glu Ile Phe Ser Pro Asn
            435                    440                    445
    Asp Lys Lys Ser Phe Cys Ser Ile
        450                    455


    <210> 4075
    <211> 2492
    <212> DNA
    <213> Homo sapiens

    <400> 4075
    ntgctggagg aggataacaa gttttgtgca gattgccagt ctaaagggcc gcgatgggcc
    60
    tcttggaaca ttggtgtgtt catctgcatt cgatgtgctg gaatccacag gaatctgggg
    120
    gtgcacatat ccagggtaaa gtcagttaac ctcgaccagt ggactcaaga acagattcag
    180
    tgcatgcaag agatgggaaa tggaaaggca aaccgacttt atgaagccta tcttcctgag
    240
    acctttcggc gacctcagat agacccagct gttgaaggat ttattcgaga caaatatgag
    300
    aagaagaaat acatggaccg aagtctggac atcaatgcct ttaggaaaga aaaagatgac
    360
    aagtggaaaa gagggagcga accagttcca gaaaaaaaat tggaacctgt tgtttttgag
    420
    aaggtgaaaa tgccacagaa aaaagaagac ccacagctac ctcggaaaag ctccccgaaa
    480
    tccacagcgc ctgtcatgga tttgttgggc cttgatgctc ctgtggcctg ctccattgca
    540
    aatagtaaga ccagcaatac cctagagaag gatttagatc tgttggcctc tgttccatcc
    600
    ccttcttctt cgggttccag aaaggttgta ggttccatgc caactgcagg gagtgccggc
    660
```

```
tctgttcctg aaaatctgaa cctgtttccg gagccaggga gcaaatcaga agaaataggc
720
aagaaacagc tctctaaaga ctccattctt tcactgtatg gatcccagac gcctcaaatg
780
cctactcaag caatgttcat ggctcccgct cagatggcat atcccacagc ctaccccagc
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900
atggttgctc agccaggagc ttctgggatg gttgccccca tggccatgcc tgcaggctat
960
atgggtggca tgcaggcatc aatgatgggt gtgccgaatg gaatgatgac cacccagcag
1020
gctggctaca tggcaggcat ggcagctatg ccccagactg tgtatggggt ccagccagct
1080
cagcagctgc aatggaacct tactcagatg acccagcaga tggctgggat gaacttctat
1140
ggagccaatg gcatgatgaa ctatggacag tcaatgagtg gcggaaatgg acaggcagca
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aatcagactc tcagtcctca gatgtggaaa taaaaacaaa acacctgtat ggctgccatt
1260
ctcttcagcc ctcgctctcc cctttccaca gcctccaccc ctgacccca tcctcttttc
1320
ctacctctct gtttggttta gaaattgctc aataagtcat ttggggtttg gcatcctgcc
1380
cagccacttc ccaaacatga agacctctct gttgctttat gttgtacatg ccccatagcc
1440
atcccaacgt cctccccagt cctctcctgg caccagcacc ttagaagttg ttggcagaag
1500
gcacttaaac tgtgggagaa gtgtgcacac ctttgagtcc cttccctcaa ggttaaagct
1560
cctgtcagac tctcagaagg gtctgtgggt gttgtatatt aggcaaacag gggaaagctt
1620
agaggtcctt ctatatgtgt taataagctg tttctaagtg tttaaatttg aaaagcatca
1680
tgttctcatg atttatggga atgaagcaag tactgaaatc aaattaaata ctccctgggt
1740
cctgggtcag tttgacccta gccctggggt gaggcaagcc ccctcctatg aggatgagca
1800
aaaatactac tctcttcgcc ctgagttgct ttctggatct ggggcttcag gacttgctgc
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ttcagtcagc ctttattagc accaaagact ttatgaagat cccacacaca gacacacatc
1920
ccttcccgcc tccccctgc cttcagtagg atctggctcc gtggctggag gaccaacccc
1980
tatagtggga atgcagagct taacgtgtac tgcttgtgtg tgtgcgtgag tgtgtgtgtg
2040
tgtatgagtg tgtgttccgc ctcccaccct ctccccatct gctctgggta tttttgtttt
2100
tgtttagttt taggtttaca acagagagga attaatttat cagcagccta aaactgttgt
2160
gttttctta tggtttaaaa aacgccatgt cattgataac tccctttctc ccttcccttc
2220
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2280
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2340
cttgaaaatt cagacaagaa aactttgctt aaaagatttc atgtgtggga accacagttc
2400
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2460
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
2492

<210> 4076
<211> 410
<212> PRT
<213> Homo sapiens

<400> 4076
Xaa Leu Glu Glu Asp Asn Lys Phe Cys Ala Asp Cys Gln Ser Lys Gly
1   5   10   15
Pro Arg Trp Ala Ser Trp Asn Ile Gly Val Phe Ile Cys Ile Arg Cys
            20   25   30
Ala Gly Ile His Arg Asn Leu Gly Val His Ile Ser Arg Val Lys Ser
            35   40   45
Val Asn Leu Asp Gln Trp Thr Gln Glu Gln Ile Gln Cys Met Gln Glu
        50   55   60
Met Gly Asn Gly Lys Ala Asn Arg Leu Tyr Glu Ala Tyr Leu Pro Glu
65   70   75   80
Thr Phe Arg Arg Pro Gln Ile Asp Pro Ala Val Glu Gly Phe Ile Arg
                85   90   95
Asp Lys Tyr Glu Lys Lys Lys Tyr Met Asp Arg Ser Leu Asp Ile Asn
                100   105   110
Ala Phe Arg Lys Glu Lys Asp Asp Lys Trp Lys Arg Gly Ser Glu Pro
            115   120   125
Val Pro Glu Lys Lys Leu Glu Pro Val Val Phe Glu Lys Val Lys Met
    130   135   140
Pro Gln Lys Lys Glu Asp Pro Gln Leu Pro Arg Lys Ser Ser Pro Lys
145   150   155   160
Ser Thr Ala Pro Val Met Asp Leu Leu Gly Leu Asp Ala Pro Val Ala
            165   170   175
Cys Ser Ile Ala Asn Ser Lys Thr Ser Asn Thr Leu Glu Lys Asp Leu
            180   185   190
Asp Leu Leu Ala Ser Val Pro Ser Pro Ser Ser Ser Gly Ser Arg Lys
            195   200   205
Val Val Gly Ser Met Pro Thr Ala Gly Ser Ala Gly Ser Val Pro Glu
    210   215   220
Asn Leu Asn Leu Phe Pro Glu Pro Gly Ser Lys Ser Glu Glu Ile Gly
225   230   235   240
Lys Lys Gln Leu Ser Lys Asp Ser Ile Leu Ser Leu Tyr Gly Ser Gln
                245   250   255
Thr Pro Gln Met Pro Thr Gln Ala Met Phe Met Ala Pro Ala Gln Met
                260   265   270
Ala Tyr Pro Thr Ala Tyr Pro Ser Phe Pro Gly Val Thr Pro Pro Asn
            275   280   285
Ser Ile Met Gly Ser Met Met Pro Pro Val Gly Met Val Ala Gln
        290   295   300
Pro Gly Ala Ser Gly Met Val Ala Pro Met Ala Met Pro Ala Gly Tyr

3264

```
305                    310                    315                    320
Met Gly Gly Met Gln Ala Ser Met Met Gly Val Pro Asn Gly Met Met
                   325                    330                    335
Thr Thr Gln Gln Ala Gly Tyr Met Ala Gly Met Ala Ala Met Pro Gln
              340                    345                    350
Thr Val Tyr Gly Val Gln Pro Ala Gln Gln Leu Gln Trp Asn Leu Thr
         355                    360                    365
Gln Met Thr Gln Gln Met Ala Gly Met Asn Phe Tyr Gly Ala Asn Gly
    370                    375                    380
Met Met Asn Tyr Gly Gln Ser Met Ser Gly Gly Asn Gly Gln Ala Ala
385                    390                    395                    400
Asn Gln Thr Leu Ser Pro Gln Met Trp Lys
                   405                    410
```

<210> 4077
<211> 684
<212> DNA
<213> Homo sapiens

```
<400> 4077
cgcgttgtac acaactggga ctttgagcct cgaaaggttt ctcgctgcag catgcgctac
60
ctggcgctga tggtgtctcg gcccgtactc aggctccggg agatcaaccc tctgctgttc
120
agctacgtgg aggagctggt ggagattcgc aagctgcgcc aggacatcct gctcatgaag
180
ccgtacttca tcacctgcag ggaggccatg gaggctcgtc tgctgctgca gctccaggat
240
cggcagcatt ttgtggagaa cgacgagatg tactctgtcc aggacctcct ggacgtgcat
300
gccggccgcc tgggctgctc gctcaccgag atccacacgc tcttcgccaa gcacatcaag
360
ctggactgcg agcggtgcca ggccaagggc ttcgtgtgtg agctctgcag agagggcgac
420
gtgctgttcc cgttcgacag ccacacgtct gtgtgcgccg actgctccgc ggtcttccac
480
agggactgct actacgacaa ctccaccact tgtcccaagt gtgcccggct cagcctgagg
540
aagcagtcgc tcttccagga gccaggtccc gatgtggagg cctagcgccg aggaacagtg
600
ctgggcaccc cgctctggcc cagcaggacc caccctgcca acatcaagtt gttccttctg
660
ctccagaaac ccctggggtg cgca
684
```

<210> 4078
<211> 194
<212> PRT
<213> Homo sapiens

```
<400> 4078
Arg Val Val His Asn Trp Asp Phe Glu Pro Arg Lys Val Ser Arg Cys
  1               5                  10                  15
Ser Met Arg Tyr Leu Ala Leu Met Val Ser Arg Pro Val Leu Arg Leu
```

```
                20                    25                    30
Arg Glu Ile Asn Pro Leu Leu Phe Ser Tyr Val Glu Glu Leu Val Glu
            35                    40                    45
Ile Arg Lys Leu Arg Gln Asp Ile Leu Leu Met Lys Pro Tyr Phe Ile
        50                    55                    60
Thr Cys Arg Glu Ala Met Glu Ala Arg Leu Leu Leu Gln Leu Gln Asp
65                    70                    75                    80
Arg Gln His Phe Val Glu Asn Asp Glu Met Tyr Ser Val Gln Asp Leu
                85                    90                    95
Leu Asp Val His Ala Gly Arg Leu Gly Cys Ser Leu Thr Glu Ile His
            100                   105                   110
Thr Leu Phe Ala Lys His Ile Lys Leu Asp Cys Glu Arg Cys Gln Ala
        115                   120                   125
Lys Gly Phe Val Cys Glu Leu Cys Arg Glu Gly Asp Val Leu Phe Pro
        130                   135                   140
Phe Asp Ser His Thr Ser Val Cys Ala Asp Cys Ser Ala Val Phe His
145                   150                   155                   160
Arg Asp Cys Tyr Tyr Asp Asn Ser Thr Thr Cys Pro Lys Cys Ala Arg
                165                   170                   175
Leu Ser Leu Arg Lys Gln Ser Leu Phe Gln Glu Pro Gly Pro Asp Val
            180                   185                   190
Glu Ala
```

```
<210> 4079
<211> 783
<212> DNA
<213> Homo sapiens

<400> 4079
tctagaactt aaacaatatt agcaatgcct caagagcccc cagtgaagtt ttccagaaac
60
ctggttagaa tccttaggcg ggacccacct agcagtggtg ccttctcact ttgtcctggc
120
atggccaggg ttgacctctg tagagggaca tccctcgtgt ttcccccagg actgaggaag
180
gttagaatgc agagttctct ccggagatgg ctgagctctc tttaggccca tccaccccctg
240
ctctcctggc tgtgcatgca aggcttctct gttagggcag tgcagcttgg agggtagaca
300
cactgagggt gtaagagcct gtgtgaacag ctcccatctg cagagcctcc tctccttaca
360
gatatatccc aaggcagggg tcccatattc cctgcggttc tgagctggca ttacctgcag
420
cagatggatc actggacagc gagtccggaa atcatccttc tccaccaagc tttcccactt
480
aatagcttgg taacctttga cagatgattt ctttctttcc taatttgtag catgggggaca
540
gtgagggata caacagcagt ttctgaaaca gcagtgacca ccatttactg catttacccc
600
aggccaggca ctgtgtgtgg gcatggcatt taatcccggt aacactctat aagatagggg
660
ctgttatgac ctcatttctc cgatgaggaa gccagggctc agagaagttg aaggcatgag
720
```

cccgttgtt atgaagtcat tagatagtag agctggggat ttgaaccccca gaggcccact
780
nta
783

<210> 4080
<211> 101
<212> PRT
<213> Homo sapiens

<400> 4080
Met Pro Ala Gln Asn Arg Arg Glu Tyr Gly Thr Pro Ala Leu Gly Tyr
1   5   10   15
Ile Cys Lys Glu Arg Arg Leu Cys Arg Trp Glu Leu Phe Thr Gln Ala
            20   25   30
Leu Thr Pro Ser Val Cys Leu Pro Ser Lys Leu His Cys Pro Asn Arg
        35   40   45
Glu Ala Leu His Ala Gln Pro Gly Glu Gln Gly Trp Met Gly Leu Lys
    50   55   60
Arg Ala Gln Pro Ser Pro Glu Arg Thr Leu His Ser Asn Leu Pro Gln
65   70   75   80
Ser Trp Gly Lys His Glu Gly Cys Pro Ser Thr Glu Val Asn Pro Gly
            85   90   95
His Ala Arg Thr Lys
            100

<210> 4081
<211> 645
<212> DNA
<213> Homo sapiens

<400> 4081
agaattcctc cctggatgga agtggtcctt atacccatga caggaaaacc aagtctgtac
60
ccaggattgt tcctttttac cactccttgt agactggtac ggcctgtgca gaacttagca
120
ttgggcaaag aagagctaat tggaactatg gaacagatct tcatgaatgt cgctatcttt
180
gaggatgaag tttttgctgg agttaccaca caccaggaac tctttccaca cagcctgctg
240
agtgtgattg ccaacttcat cccttttctct gatcacaacc agagtccacg gaacatgtac
300
caatgccaga tgggtaagca aactatgggc tttccacttc tcacttatca agaccgatcg
360
gataacaaac tgtatcgtct tcagactcct cagagtccct tggtgagacc ctccatgtat
420
gattattatg acatggataa ctatccaatt gggaccaatg ccatcgttgc tgtgatttct
480
tacactggct atgatatgga agatgccatg attgtgaata aggcctcttg ggaacgaggc
540
tttgcccatg gaagtgtcta caagtctgag ttcatagacc tctctgaaaa aattaaacaa
600
ggagatagta gcctggtgtt tggcatcaaa cctggtgacc cacgc
645

3267

<210> 4082
<211> 215
<212> PRT
<213> Homo sapiens

<400> 4082
Arg Ile Pro Pro Trp Met Glu Val Val Leu Ile Pro Met Thr Gly Lys
1   5   10   15
Pro Ser Leu Tyr Pro Gly Leu Phe Leu Phe Thr Thr Pro Cys Arg Leu
            20   25   30
Val Arg Pro Val Gln Asn Leu Ala Leu Gly Lys Glu Glu Leu Ile Gly
        35   40   45
Thr Met Glu Gln Ile Phe Met Asn Val Ala Ile Phe Glu Asp Glu Val
    50   55   60
Phe Ala Gly Val Thr Thr His Gln Glu Leu Phe Pro His Ser Leu Leu
65   70   75   80
Ser Val Ile Ala Asn Phe Ile Pro Phe Ser Asp His Asn Gln Ser Pro
                85   90   95
Arg Asn Met Tyr Gln Cys Gln Met Gly Lys Gln Thr Met Gly Phe Pro
            100   105   110
Leu Leu Thr Tyr Gln Asp Arg Ser Asp Asn Lys Leu Tyr Arg Leu Gln
        115   120   125
Thr Pro Gln Ser Pro Leu Val Arg Pro Ser Met Tyr Asp Tyr Tyr Asp
    130   135   140
Met Asp Asn Tyr Pro Ile Gly Thr Asn Ala Ile Val Ala Val Ile Ser
145   150   155   160
Tyr Thr Gly Tyr Asp Met Glu Asp Ala Met Ile Val Asn Lys Ala Ser
            165   170   175
Trp Glu Arg Gly Phe Ala His Gly Ser Val Tyr Lys Ser Glu Phe Ile
        180   185   190
Asp Leu Ser Glu Lys Ile Lys Gln Gly Asp Ser Ser Leu Val Phe Gly
        195   200   205
Ile Lys Pro Gly Asp Pro Arg
    210   215

<210> 4083
<211> 2983
<212> DNA
<213> Homo sapiens

<400> 4083
aactgctcac ccagaactcc ggctcagacg gcaccaccac tgtggaggtc tcccttggcg
60
gctctgaagg gcagttactt acgtcctatt ctgtggtccc taagtacctt gcacgtacct
120
ttatttaaac acttactgca atacattcca gttagctgtt tatgaacctg tctaccatga
180
aaaactaaat gccttgaggg gaaggccgct gttcatttct tatctatttt gcctacacgg
240
tttcttgccc tcagtaagca tttaataaac ttttgttaaa catatgaatg aataattaaa
300
ttcaaaaata aattcttgac tgttttctcc catctctctc aaatgtttgc tctggaatat
360

3268

```
ggaaacagga tggcaagttt aaaacagatc tggatatgtg gcttcaggga cacatctgta
420
caaatctata tctcacaagt ggcaaagaga tacaaactcc attctttcct cctctgaatt
480
gttaatatct ctaaatctaa aggcaggcag caggtttctc tgagaacaca tgcaacctca
540
gctcaatgca gtgacagtgc taggataccc ggagagccag agctgtggga gggcagaggt
600
agaacaagag agggtctcag catcaggcca agacaaagcc tacttacct ccttcttggg
660
aattcatgat gttcagggca aacagcattg cattggagaa cgtggttgcc tcttctttac
720
ttgcaaagtt taagccgtag acctggcggg catctcgcca ctggtggaag gttggcgtgg
780
cctgattgta cttcagccct ttcacgattg ataattgat cacaacctgc tgatcctgca
840
acttgactcc aacgactctg aaggtgttgc tggcagtgtt gtggtagatg ttgatccggc
900
tgaatccctg ctggccaggt ttgattggta cccatttctt actggtggtc ctctgatcaa
960
cataggctgg tgggagtaca ggactcgcct cctcagggtt ccctgtgctg ccacttttca
1020
gccatggcca caagtgaaca gagtatctgc caagcccggg cttccgtgat ggtctacgat
1080
gacaccagta agaaatgggt accaatcaaa cctggccagc agggattcag ccggatcaac
1140
atctaccaca acactgccag caacaccttc agagtcgttg gagtcaagtt gcaggatcag
1200
caggttgtga tcaattattc aatcgtgaaa gggctgaagt acaatcaggc cacgccaacc
1260
ttccaccagt ggcgagatgc ccgccaggtc tacggcttaa actttgcaag taaagaagag
1320
gcaaccacat tctccaatgc aatgctgttt gccctgaaca tcatgaattc ccaagaagga
1380
ggccctcca gccagcgtca ggtgcagaat ggcccctctc ctgatgagat ggacatccag
1440
agaagacaag tgatggagca gcaccagcag cagcgtcagg aatctctaga aagaagaacc
1500
tcggccacag ggcccatcct cccaccagga catccttcat ctgcagccag cgcccccgtc
1560
tcatgtagtg ggcctccacc gccccccca ccccagtcc cacctccacc cactggggct
1620
acccccacctc ccccaccccc actgccagcc ggaggagccc aggggtccag ccacgacgag
1680
agctccatgt caggactggc cgctgccata gctggggcca agctgagaag agtccaacgg
1740
ccagaagacg catctggagg ctccagtccc agtgggacct caaagtccga tgccaaccgg
1800
gcaagcagcg ggggtggcgg aggaggcctc atggaggaaa tgaacaaact gctggccaag
1860
aggagaaaag cagcctccca gtcagacaag ccagccgaga agaaggaaga tgaaagccaa
1920
atggaagatc ctagtacctc cccctctccg gggacccgag cagccagcca gccacctaac
1980
```

```
tcctcagagg ctggccggaa gccctgggag cggagcaact cggtggagaa gcctgtgtcc
2040
tcgattctgt ccagaacccc gtctgtggca aagagccccg aagctaagag ccccctttcag
2100
tcgcagcctc actctaggat gaagcctgct gggagcgtga atgacatggc cctggatgcc
2160
ttcgacttgg accggatgaa gcaggagatc ctagaggagg tggtgagaga gctccacaag
2220
gtgaaggagg agatcatcga cgccatcagg caggagctga gtgggatcag caccacgtaa
2280
ggggccggcc tcgctgcgct gattcgtcga gcccatccgg cgacagagga cagccagaag
2340
cccagccagc cccagactcc agtgcaccag agcacgcaca ggagcctggg cgcgctgctg
2400
tgaaacgtcc tgacctgtga tcacacatga cagtgaggaa accaagtgca actcctgggt
2460
tttttttaga ttctgcctga cacggaacac caggtctgct cgtctttttt gtgttttata
2520
tttgcttatt taaggtacat ttctttgggt ttctagagac gccctaagt cacctgcttc
2580
attagacggt ttccaggttt tctcccaggt gacgctgtta gcgcctcagc tggcggtgac
2640
agccggccca gcgtggcgcc accacacacc gcagagctgt ccaggcacag ctccgtcccc
2700
agcgctcatg gtgttgaaac tgtctgtcat gcaccacggt gtctgtgtcc acacagtaat
2760
aaacggttta ctgtccgcaa aaaaaaaact ttgccggtct cagtctttaa tcgtggcagg
2820
gcctcacgca cgcgcgcacg tacacacact caggcttcag atcttgttga aagctgcgat
2880
attgacactc tgcactttct cttctatctt gttattatat ctccggcagt ctgtcccacc
2940
ttgtcgtcct ccaccacaca ctgaatctgt agctccggcc ggc
2983
```

```
<210> 4084
<211> 362
<212> PRT
<213> Homo sapiens
```

```
<400> 4084
Gln Asp Gln Gln Val Val Ile Asn Tyr Ser Ile Val Lys Gly Leu Lys
1               5                   10                  15
Tyr Asn Gln Ala Thr Pro Thr Phe His Gln Trp Arg Asp Ala Arg Gln
            20                  25                  30
Val Tyr Gly Leu Asn Phe Ala Ser Lys Glu Glu Ala Thr Thr Phe Ser
        35                  40                  45
Asn Ala Met Leu Phe Ala Leu Asn Ile Met Asn Ser Gln Glu Gly Gly
    50                  55                  60
Pro Ser Ser Gln Arg Gln Val Gln Asn Gly Pro Ser Pro Asp Glu Met
65                  70                  75                  80
Asp Ile Gln Arg Arg Gln Val Met Glu Gln His Gln Gln Gln Arg Gln
                85                  90                  95
Glu Ser Leu Glu Arg Arg Thr Ser Ala Thr Gly Pro Ile Leu Pro Pro
```

```
                  100                    105                    110
      Gly His Pro Ser Ser Ala Ala Ser Ala Pro Val Ser Cys Ser Gly Pro
          115                   120                    125
      Pro Pro Pro Pro Pro Pro Pro Val Pro Pro Pro Pro Thr Gly Ala Thr
          130                    135                    140
      Pro Pro Pro Pro Pro Pro Leu Pro Ala Gly Gly Ala Gln Gly Ser Ser
      145                    150                    155                    160
      His Asp Glu Ser Ser Met Ser Gly Leu Ala Ala Ala Ile Ala Gly Ala
                            165                   170                    175
      Lys Leu Arg Arg Val Gln Arg Pro Glu Asp Ala Ser Gly Gly Ser Ser
                    180                   185                    190
      Pro Ser Gly Thr Ser Lys Ser Asp Ala Asn Arg Ala Ser Ser Gly Gly
              195                   200                    205
      Gly Gly Gly Gly Leu Met Glu Glu Met Asn Lys Leu Leu Ala Lys Arg
          210                   215                    220
      Arg Lys Ala Ala Ser Gln Ser Asp Lys Pro Ala Glu Lys Lys Glu Asp
      225                   230                    235                    240
      Glu Ser Gln Met Glu Asp Pro Ser Thr Ser Pro Ser Pro Gly Thr Arg
                            245                   250                    255
      Ala Ala Ser Gln Pro Pro Asn Ser Ser Glu Ala Gly Arg Lys Pro Trp
                    260                   265                    270
      Glu Arg Ser Asn Ser Val Glu Lys Pro Val Ser Ser Ile Leu Ser Arg
                    275                   280                    285
      Thr Pro Ser Val Ala Lys Ser Pro Glu Ala Lys Ser Pro Leu Gln Ser
          290                   295                    300
      Gln Pro His Ser Arg Met Lys Pro Ala Gly Ser Val Asn Asp Met Ala
      305                   310                    315                    320
      Leu Asp Ala Phe Asp Leu Asp Arg Met Lys Gln Glu Ile Leu Glu Glu
                            325                   330                    335
      Val Val Arg Glu Leu His Lys Val Lys Glu Glu Ile Ile Asp Ala Ile
                    340                   345                    350
      Arg Gln Glu Leu Ser Gly Ile Ser Thr Thr
                    355                   360
```

```
<210> 4085
<211> 2673
<212> DNA
<213> Homo sapiens

<400> 4085
ggattcaaca catcccaggg caagctgctg cgcaccatct tcttcggggt caagagggtg
60
actgcgaaca acctggagac cttcatcttc atcctcttcc tcctggtgtt tgccatcgct
120
gcagctgcct atgtatggat tgaaggtacc aaggacccca gccggaaccg ctacaagctg
180
tttctggagt gcaccctgat cctcacctcg tcgtgcctc ctgagctgcc catcgagctg
240
tccctggccg tcaacacctc cctcatcgcc ctggccaagc tctacatgta ctgcacagag
300
cccttccgga tccccttttgc tggcaaggtc gaggtgtgct gctttgacaa gacggggacg
360
ttgaccagtg acagcctggt ggtgcgcggt gtggccgggc tgagagacgg gaaggaggtg
420
```

accccagtgt ccagcatccc tgtagaaaca caccgggccc tggcctcgtg ccactcgctc
480

atgcagctgg acgacggcac cctcgtgggt gaccctctag agaaggccat gctgacggcc
540

gtggactgga cgctgaccaa agatgagaaa gtattccccc gaagtattaa aactcagggg
600

ctgaaaattc accagcgctt tcattttgcc agtgccctga agcgaatgtc cgtgcttgcc
660

tcgtatgaga agctgggctc caccgacctc tgctacatcg cggccgtgaa gggggccccc
720

gaaactctgc actccatgtt ctcccagtgc ccgcccgact accaccacat ccacaccgag
780

atctcccggg aaggagcccg tgtcctggcg ctgggctaca aggagctggg acacctcact
840

caccagcagg cccgggaggt caagcgggag gccctggaat gcagcctcaa gtttgtgggc
900

ttcattgtgg tctcctgccc gctcaaggct gactccaagg ccgtgatccg ggagatccag
960

aatgcgtccc accgggtggt catgatcacg ggagacaacc cgctcactgc atgccacgtg
1020

gcccaggagc tgcacttcat tgaaaaggcc cacacgctga tcctgcagcc tccctccgag
1080

aaaggccggc agtgcgagtg gcgctccatt gacggcagca tcgtgctgcc cctgnngccc
1140

ggggctcccc aaaggcactg gccctggagt acgcacntgt gcctcacagg cgacggcttg
1200

gcccacctgc aggccaccga cccccagcag ctgctccgcc tcatccccca tgtgcaggtg
1260

ttcgcccgtg tggctcccaa gcagaaggag tttgtcatca ccagcctgaa ggagctgggc
1320

tacgtgaccc tcatgtgtgg ggatggcacc aacgacgtgg gcgccctgaa gcatgctgac
1380

gtgggtgtgg cgctcttggc caatgcccct gagcgggttg tcgagcggcg acggcggccc
1440

cgggacagcc caaccctgag caacagtggc atcagagcca cctccaggac agccaagcag
1500

cggtcggggc tccctccctc cgaggagcag ccaacctccc agagggaccg cctgagccag
1560

gtgctgcgag acctcgagga cgagagtacg cccattgtga aactggggga tgccagcatc
1620

gcagcaccct tcacctccaa gctctcatcc atccagtgca tctgccacgt gatcaagcag
1680

ggccgctgca cgctggtgac cacgctacag atgttcaaga tcctggcgct caatgccctc
1740

atcctggcct acagccagag cgtcctctac ctggagggag tcaagttcag tgacttccag
1800

gccaccctac aggggctgct gctggccggc tgcttcctct tcatctcccg ttccaagccc
1860

ctcaagaccc tctccccgaga acggcccctg cccaacatct tcaacctgta caccatcctc
1920

accgtcatgc tccagttctt tgtgcacttc ctgagccttg tctacctgta ccgtgaggcc
1980

caggcccgga gccccnngag anagcaggag cagttcgtgg acttgtacaa ggagtttgag
2040

ccaagcctgg tcaacagcac cgtctacatc atggccatgg ccatgcagat ggccaccttc
2100
gccatcaatt acaaaggccc gcccttcatg gagagcctgc ccgagaacaa gcccctggtg
2160
tggagtctgg cagtttcact cctggccatc attggcctgc tcctcggctc ctcgcccgac
2220
ttcaacagcc agtttggcct cgtggacatc cctgtggagt tcaagctggt cattgcccag
2280
gtcctgctcc tggacttctg cctggcgctc ctggccgacc gcgtcctgca gttcttcctg
2340
gggaccccga agctgaaagt gccttcctga gatggcagtg ctggtaccca ctgcccaccc
2400
tggctgccgc tgggcgggaa ccccaacagg gccccgggag ggaaccctgc ccccaacccc
2460
ccacagcaag gctgtacagt ctcgcccttg gaagactgag ctgggacccc cacagccatc
2520
cgctggcttg gccagcagaa ccagccccaa gccagcacct ttggtaaata aagcagcatc
2580
tgagattta aaaaaaaaa aaaaaaccc cggaaatttt tgaattggta aattcggaaa
2640
accccgatt tttctttaa ctgttccctg ttt
2673

<210> 4086
<211> 789
<212> PRT
<213> Homo sapiens

<400> 4086
Gly Phe Asn Thr Ser Gln Gly Lys Leu Leu Arg Thr Ile Phe Phe Gly
1   5   10   15
Val Lys Arg Val Thr Ala Asn Asn Leu Glu Thr Phe Ile Phe Ile Leu
            20   25   30
Phe Leu Leu Val Phe Ala Ile Ala Ala Ala Ala Tyr Val Trp Ile Glu
        35   40   45
Gly Thr Lys Asp Pro Ser Arg Asn Arg Tyr Lys Leu Phe Leu Glu Cys
        50   55   60
Thr Leu Ile Leu Thr Ser Val Val Pro Pro Glu Leu Pro Ile Glu Leu
65   70   75   80
Ser Leu Ala Val Asn Thr Ser Leu Ile Ala Leu Ala Lys Leu Tyr Met
                85   90   95
Tyr Cys Thr Glu Pro Phe Arg Ile Pro Phe Ala Gly Lys Val Glu Val
            100   105   110
Cys Cys Phe Asp Lys Thr Gly Thr Leu Thr Ser Asp Ser Leu Val Val
            115   120   125
Arg Gly Val Ala Gly Leu Arg Asp Gly Lys Glu Val Thr Pro Val Ser
        130   135   140
Ser Ile Pro Val Glu Thr His Arg Ala Leu Ala Ser Cys His Ser Leu
145   150   155   160
Met Gln Leu Asp Asp Gly Thr Leu Val Gly Asp Pro Leu Glu Lys Ala
                165   170   175
Met Leu Thr Ala Val Asp Trp Thr Leu Thr Lys Asp Glu Lys Val Phe
            180   185   190
Pro Arg Ser Ile Lys Thr Gln Gly Leu Lys Ile His Gln Arg Phe His

3273

```
            195                    200                    205
Phe Ala Ser Ala Leu Lys Arg Met Ser Val Leu Ala Ser Tyr Glu Lys
210                    215                    220
Leu Gly Ser Thr Asp Leu Cys Tyr Ile Ala Ala Val Lys Gly Ala Pro
225                    230                    235                    240
Glu Thr Leu His Ser Met Phe Ser Gln Cys Pro Pro Asp Tyr His His
                   245                    250                    255
Ile His Thr Glu Ile Ser Arg Glu Gly Ala Arg Val Leu Ala Leu Gly
                   260                    265                    270
Tyr Lys Glu Leu Gly His Leu Thr His Gln Gln Ala Arg Glu Val Lys
                   275                    280                    285
Arg Glu Ala Leu Glu Cys Ser Leu Lys Phe Val Gly Phe Ile Val Val
                   290                    295                    300
Ser Cys Pro Leu Lys Ala Asp Ser Lys Ala Val Ile Arg Glu Ile Gln
305                    310                    315                    320
Asn Ala Ser His Arg Val Val Met Ile Thr Gly Asp Asn Pro Leu Thr
                   325                    330                    335
Ala Cys His Val Ala Gln Glu Leu His Phe Ile Glu Lys Ala His Thr
                   340                    345                    350
Leu Ile Leu Gln Pro Pro Ser Glu Lys Gly Arg Gln Cys Glu Trp Arg
                   355                    360                    365
Ser Ile Asp Gly Ser Ile Val Leu Pro Leu Xaa Pro Gly Ala Pro Gln
                   370                    375                    380
Arg His Trp Pro Trp Ser Thr His Xaa Cys Leu Thr Gly Asp Gly Leu
385                    390                    395                    400
Ala His Leu Gln Ala Thr Asp Pro Gln Gln Leu Leu Arg Leu Ile Pro
                   405                    410                    415
His Val Gln Val Phe Ala Arg Val Ala Pro Lys Gln Lys Glu Phe Val
                   420                    425                    430
Ile Thr Ser Leu Lys Glu Leu Gly Tyr Val Thr Leu Met Cys Gly Asp
                   435                    440                    445
Gly Thr Asn Asp Val Gly Ala Leu Lys His Ala Asp Val Gly Val Ala
                   450                    455                    460
Leu Leu Ala Asn Ala Pro Glu Arg Val Val Glu Arg Arg Arg Arg Pro
465                    470                    475                    480
Arg Asp Ser Pro Thr Leu Ser Asn Ser Gly Ile Arg Ala Thr Ser Arg
                   485                    490                    495
Thr Ala Lys Gln Arg Ser Gly Leu Pro Pro Ser Glu Glu Gln Pro Thr
                   500                    505                    510
Ser Gln Arg Asp Arg Leu Ser Gln Val Leu Arg Asp Leu Glu Asp Glu
                   515                    520                    525
Ser Thr Pro Ile Val Lys Leu Gly Asp Ala Ser Ile Ala Ala Pro Phe
                   530                    535                    540
Thr Ser Lys Leu Ser Ser Ile Gln Cys Ile Cys His Val Ile Lys Gln
545                    550                    555                    560
Gly Arg Cys Thr Leu Val Thr Thr Leu Gln Met Phe Lys Ile Leu Ala
                   565                    570                    575
Leu Asn Ala Leu Ile Leu Ala Tyr Ser Gln Ser Val Leu Tyr Leu Glu
                   580                    585                    590
Gly Val Lys Phe Ser Asp Phe Gln Ala Thr Leu Gln Gly Leu Leu Leu
                   595                    600                    605
Ala Gly Cys Phe Leu Phe Ile Ser Arg Ser Lys Pro Leu Lys Thr Leu
                   610                    615                    620
Ser Arg Glu Arg Pro Leu Pro Asn Ile Phe Asn Leu Tyr Thr Ile Leu
```

3274

```
625                     630                     635                     640
Thr Val Met Leu Gln Phe Phe Val His Phe Leu Ser Leu Val Tyr Leu
                    645                     650                     655
Tyr Arg Glu Ala Gln Ala Arg Ser Pro Xaa Arg Xaa Gln Glu Gln Phe
                660                     665                     670
Val Asp Leu Tyr Lys Glu Phe Glu Pro Ser Leu Val Asn Ser Thr Val
            675                     680                     685
Tyr Ile Met Ala Met Ala Met Gln Met Ala Thr Phe Ala Ile Asn Tyr
            690                     695                     700
Lys Gly Pro Pro Phe Met Glu Ser Leu Pro Glu Asn Lys Pro Leu Val
705                     710                     715                     720
Trp Ser Leu Ala Val Ser Leu Leu Ala Ile Ile Gly Leu Leu Leu Gly
                725                     730                     735
Ser Ser Pro Asp Phe Asn Ser Gln Phe Gly Leu Val Asp Ile Pro Val
            740                     745                     750
Glu Phe Lys Leu Val Ile Ala Gln Val Leu Leu Leu Asp Phe Cys Leu
            755                     760                     765
Ala Leu Leu Ala Asp Arg Val Leu Gln Phe Phe Leu Gly Thr Pro Lys
        770                     775                     780
Leu Lys Val Pro Ser
785
```

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<210> 4087
<211> 959
<212> DNA
<213> Homo sapiens

<400> 4087
aggggaagtc tggagaaggc attgtttcaa ttattaaaag tgtgggggca gtgggcggaa
60
caaacgcgcc gactacagag gctggacgta agcttagcgg tggcgcgcgt cgcagcgcc
120
ggcccgagtt gccaaaacaa aggggatttg gtgatggagg ctttgttaga aggaatacaa
180
aatcgagggc atggtggggg attttttgaca tcttgcgaag cagaactaca ggagctcatg
240
aaacagattg acataatggt ggctcataaa aaatctgaat gggaaggacg tacacatgct
300
ctagaaactt gcttgaaaat ccgtgaacag gaacttaaga gtcttaggag tcagttggat
360
gtgacacata aggaggttgg aatgttgcat cagcaggtag aagaacatga aaaaatcaag
420
caagagatga ccatggaata taagcaggag ttgaagaaac tacatgaaga attatgcata
480
ctgaagagaa gctatgaaaa gcttcagaaa aagcaaatga gggaattcag aggaaatacc
540
aaaaatcaca gggaagatcg gtctgaaatt gagaggttaa ctgcaaaaat agaggaattc
600
cgtcagaaat cgctggactg ggagaagcaa cgcttgattt atcagcaaca ggtatcttca
660
ctggaggcac aaaggaaggc tctggctgaa caatcagaga taattcaggc tcagcttgtc
720
aatcggaaac agaaattaga gtctgtggaa ctttctagcc aatcagaaat tcaacactta
780
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3275

agcagtaaac tggagcgggc taatgacact atctgtgcca atgagttgga aatagagcgc
840
ctcaccatga gggtcaatga cttggttgga accagtatga ctgtcctaca ggagcagcag
900
caaaaagaag aaaaattgag ggaatctgaa aaactattag aggctctgca ggaaaaaaa
959

<210> 4088
<211> 319
<212> PRT
<213> Homo sapiens

<400> 4088
Arg Gly Ser Leu Glu Lys Ala Leu Phe Gln Leu Leu Lys Val Trp Gly
 1   5   10   15
Gln Trp Ala Glu Gln Thr Arg Arg Leu Gln Arg Leu Asp Val Ser Leu
            20   25   30
Ala Val Ala Arg Val Arg Ser Ala Gly Pro Ser Cys Gln Asn Lys Gly
        35   40   45
Asp Leu Val Met Glu Ala Leu Leu Glu Gly Ile Gln Asn Arg Gly His
    50   55   60
Gly Gly Gly Phe Leu Thr Ser Cys Glu Ala Glu Leu Gln Glu Leu Met
65   70   75   80
Lys Gln Ile Asp Ile Met Val Ala His Lys Lys Ser Glu Trp Glu Gly
                85   90   95
Arg Thr His Ala Leu Glu Thr Cys Leu Lys Ile Arg Glu Gln Glu Leu
            100   105   110
Lys Ser Leu Arg Ser Gln Leu Asp Val Thr His Lys Glu Val Gly Met
        115   120   125
Leu His Gln Gln Val Glu Glu His Glu Lys Ile Lys Gln Glu Met Thr
    130   135   140
Met Glu Tyr Lys Gln Glu Leu Lys Lys Leu His Glu Glu Leu Cys Ile
145   150   155   160
Leu Lys Arg Ser Tyr Glu Lys Leu Gln Lys Lys Gln Met Arg Glu Phe
                165   170   175
Arg Gly Asn Thr Lys Asn His Arg Glu Asp Arg Ser Glu Ile Glu Arg
            180   185   190
Leu Thr Ala Lys Ile Glu Glu Phe Arg Gln Lys Ser Leu Asp Trp Glu
        195   200   205
Lys Gln Arg Leu Ile Tyr Gln Gln Val Ser Ser Leu Glu Ala Gln
    210   215   220
Arg Lys Ala Leu Ala Glu Gln Ser Glu Ile Ile Gln Ala Gln Leu Val
225   230   235   240
Asn Arg Lys Gln Lys Leu Glu Ser Val Glu Leu Ser Ser Gln Ser Glu
                245   250   255
Ile Gln His Leu Ser Ser Lys Leu Glu Arg Ala Asn Asp Thr Ile Cys
            260   265   270
Ala Asn Glu Leu Glu Ile Glu Arg Leu Thr Met Arg Val Asn Asp Leu
        275   280   285
Val Gly Thr Ser Met Thr Val Leu Gln Glu Gln Gln Gln Lys Glu Glu
    290   295   300
Lys Leu Arg Glu Ser Glu Lys Leu Leu Glu Ala Leu Gln Glu Lys
305   310   315

                                3276

<210> 4089
<211> 511
<212> DNA
<213> Homo sapiens

<400> 4089
accggtctcc gcgtcttggt ggtagtggtc ccctgggccc agctgtcttt tctttacct
60
ctttgtcttg cgtctttatt tctatgttct cttgtctctg cacatgggga gaaacccacc
120
aaccctgtgg ggctggcccc tacacagttt ttaaggggta cagggaaggg aagaaacagg
180
caccatgtgg ggcaggggtt ctgcttctat catatttcca ttttgttgtt ttaggagatc
240
cttccaactc tcactaacat tattttccag agaacaaaag aaaaactatg ctctccaaga
300
acatgtttcc tttgtaattt ttctgtcctc aaacttttc tggagagatg agtcatttga
360
cctgacattg agaataggct tgaagccctt tgagggaca aaggagatag agtcagcatt
420
cctatctcca tgctctgaag atccaagtca cttggttact gctccctggg ctgtctattt
480
tcactgttta tggaagatag agtacacctg t
511

<210> 4090
<211> 109
<212> PRT
<213> Homo sapiens

<400> 4090
Met Trp Gly Arg Gly Ser Ala Ser Ile Ile Phe Pro Phe Cys Cys Phe
1   5   10   15
Arg Arg Ser Phe Gln Leu Ser Leu Thr Leu Phe Ser Arg Glu Gln Lys
            20   25   30
Lys Asn Tyr Ala Leu Gln Glu His Val Ser Phe Val Ile Phe Leu Ser
            35   40   45
Ser Asn Phe Phe Trp Arg Asp Glu Ser Phe Asp Leu Thr Leu Arg Ile
        50   55   60
Gly Leu Lys Pro Phe Glu Arg Thr Lys Glu Ile Glu Ser Ala Phe Leu
65   70   75   80
Ser Pro Cys Ser Glu Asp Pro Ser His Leu Val Thr Ala Pro Trp Ala
                85   90   95
Val Tyr Phe His Cys Leu Trp Lys Ile Glu Tyr Thr Cys
                100   105

<210> 4091
<211> 1526
<212> DNA
<213> Homo sapiens

<400> 4091
cacggcggct acaccggcag cggaccgggc tttggagaac ctcgggactc aggtgctgag
60

gtgcccagcg gctccggacg tgctacgggg tgcgagcgcg ggggagttcg gggcgcacga
120
caaggaaggg cccccgggag ctctatatgg aggaaggagc ccagaatggt gtgcaccagg
180
aagaccaaaa ctttggtgtc cacttgcgtg atcctgagcg gcatgactaa catcatctgc
240
ctgctctacg tgggctgggt caccaactac atcgccagcg tgtatgtgcg ggggcaggag
300
ccggcgcccg acaagaagct ggaggaagac aaagggaca ctctgaagat tattgagcgg
360
ctggaccacc tggagaatgt catcaagcag cacattcaag gctataggag aaatttctcc
420
cttctgaatg tgtccaacta actctgttca cctgagaaat catattcccc agctctgggt
480
atccctgaat aaccacagga gaacagttcc aggccctgat aagtcagcta ttgcaagggg
540
gacctggctg gaagatatga aggaaaaata tcattcttga actaataagt tgagagatca
600
cagccttcag gggaccagaa gggaaggctg aacagagaag ggcaatttca cgttcgccat
660
gtccatattt ctatcgtcat gagccatctc accttacagg cagggaagtt ttgagcttag
720
agaatgggat gcgtcaagaa aaccgtggct cccccagctc tgttcctgga ttcagtgcct
780
gttgtttcat cctgtgtaga ctggagtcag ggtctacaca gttggaattc tatggaacca
840
agatgctgtg tggcagatgg atgtggactc caactgtgac aatccagaag gccttgggga
900
cttgtttcat gaacagctcc ctgtaggatc tctgttgggg tgggggattc taggggcatc
960
tccgcagttt tcttctgaaa acaaaacgaa tacaagttgg gcaggtgcaa caactgtgca
1020
tgcagtcccc tcccagggct ggctagcagt attgttgggt accgtaagca cttagcattg
1080
ttaagtgagc ataagtaaca agatgcaaca gcctctggcc aagttttgaa gattttgttt
1140
taaagtatgc ttttagatgt tgacattcat gattattaaa aggaacaaaa ctcaatttgg
1200
ggtctcaaga gccacaattc tagacttcta ggatgtcagg agccatgctc ttaagcttct
1260
caccctgctg ttttaatgag attaatgatt attttccact gagcacctac ctgtgatgtt
1320
cataaaaaag tgaaataaat gactcacatg gagatttgga aggatatcac tgtggaaagt
1380
agatgttaac agcctctaga aatatgataa ttatcagcta tttgagatgc agtcactgta
1440
atgtgataac aagatgtgtt gtgcaggtag aaagcatgga gagaaatggc acaaagtaga
1500
gttataagaa aaaaaaaaaa aaaaaa
1526

<210> 4092
<211> 146
<212> PRT

<213> Homo sapiens

<400> 4092
His Gly Gly Tyr Thr Gly Ser Gly Pro Gly Phe Gly Glu Pro Arg Asp
1   5   10   15
Ser Gly Ala Glu Val Pro Ser Gly Ser Gly Arg Ala Thr Gly Cys Glu
            20   25   30
Arg Gly Gly Val Arg Gly Ala Arg Gln Gly Arg Ala Pro Gly Ser Ser
        35   40   45
Ile Trp Arg Lys Glu Pro Arg Met Val Cys Thr Arg Lys Thr Lys Thr
    50   55   60
Leu Val Ser Thr Cys Val Ile Leu Ser Gly Met Thr Asn Ile Ile Cys
65   70   75   80
Leu Leu Tyr Val Gly Trp Val Thr Asn Tyr Ile Ala Ser Val Tyr Val
            85   90   95
Arg Gly Gln Glu Pro Ala Pro Asp Lys Lys Leu Glu Glu Asp Lys Gly
            100   105   110
Asp Thr Leu Lys Ile Ile Glu Arg Leu Asp His Leu Glu Asn Val Ile
        115   120   125
Lys Gln His Ile Gln Gly Tyr Arg Arg Asn Phe Ser Leu Leu Asn Val
        130   135   140
Ser Asn
145

<210> 4093
<211> 1519
<212> DNA
<213> Homo sapiens

<400> 4093
nngggccgcg gccggcagaa gggctgttag gagggaccac gcgccggggg cgcgatctct
60
ggcagggggc ggtgtgcagc ggaaccatgc acataggcgc ccacgccgac tacccctccc
120
gaggaaaaga ggccggggcg cgctgggggg tgagagcatg agggaggccg ggggggggctg
180
cttggagcgc tgctagggag cggtgccgcc gcacacccgc ctgggcgcgg cggagggcgg
240
ggagcgggca ggtcgcgcct cggcgcagcg accgccggga gctgttctga tttccgacgc
300
gcacctaggg gcccggagca gcccccgccc cggcgcgccg ccgacatggg caacgcaggg
360
agcatggatt cgcagcagac cgatttcagg gcgcacaacg tgcctttgaa gctgccgatg
420
ccagagccag gtgaactgga ggagcgattt gccatcgtgc tgaacgctat gaacctacct
480
cctgacaaag ccaggttact gcggcagtat gataatgaga aaaaatggga actgatttgt
540
gatcaggaac gattccaggt gaagaatcct ccccatacat acattcaaaa gctcaaaggc
600
tatctggatc cagctgtaac caggaagaaa ttcagacggc gtgttcaaga atctacacaa
660
gtgctaagag aactggaaat ttcttaaga actaaccaca ttggatgggt cagagaattt
720

3279

```
ctgaatgaag aaaacaaagg tcttgatgtt ctagtggaat atctctcatt tgcacagtac
780
gcggtaactt ttgactttga aagtgtggag agtactgtgg agagctcggt ggacaaatca
840
aagccctgga gtaggtccat cgaggacctg cacagaggga gcaacctgcc ctcacctgtg
900
ggcaacagtg tctcccgctc tggaagacat tctgcactgc gatataatac attgccaagc
960
agaagaactc tgaaaaattc aagattagtg agtaagaaag atgatgtgca tgtctgtatc
1020
atgtgtttac gtgccatcat gaattatcag tatggtttca acatggtcat gtctcatcca
1080
cacgctgtca atgagattgc actaagcctg aacaacaaga atcccagaac aaaagccctt
1140
gtcttagaac tgttggcagc cgtttgtctt gtcagaggcg ggcatgaaat cattttatca
1200
gcatttgata actttaaaga ggtttgtgga gaaaaacagc gctttgagaa gttgatggaa
1260
catttcagga atgaagacaa taacatagat tttatggtgg cttctatgca gtttattaat
1320
attgtagtcc attcagtaga agatatgaat ttcagagttc acctgcagta tgaatttacc
1380
aaattaggcc tggacgaata cttggacaag ctgaaacaca ctgagagtga caagcttcaa
1440
gtccagatcc aggcttacct ggacaatgtt tttgatgtag gagctctact ggaagatgct
1500
gaaactaaga atgctgcag
1519
```

```
<210> 4094
<211> 391
<212> PRT
<213> Homo sapiens
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```
<400> 4094
Met Gly Asn Ala Gly Ser Met Asp Ser Gln Gln Thr Asp Phe Arg Ala
1               5                   10                  15
His Asn Val Pro Leu Lys Leu Pro Met Pro Glu Pro Gly Glu Leu Glu
            20                  25                  30
Glu Arg Phe Ala Ile Val Leu Asn Ala Met Asn Leu Pro Pro Asp Lys
        35                  40                  45
Ala Arg Leu Leu Arg Gln Tyr Asp Asn Glu Lys Lys Trp Glu Leu Ile
    50                  55                  60
Cys Asp Gln Glu Arg Phe Gln Val Lys Asn Pro Pro His Thr Tyr Ile
65                  70                  75                  80
Gln Lys Leu Lys Gly Tyr Leu Asp Pro Ala Val Thr Arg Lys Lys Phe
                85                  90                  95
Arg Arg Arg Val Gln Glu Ser Thr Gln Val Leu Arg Glu Leu Glu Ile
            100                 105                 110
Ser Leu Arg Thr Asn His Ile Gly Trp Val Arg Glu Phe Leu Asn Glu
        115                 120                 125
Glu Asn Lys Gly Leu Asp Val Leu Val Glu Tyr Leu Ser Phe Ala Gln
    130                 135                 140
Tyr Ala Val Thr Phe Asp Phe Glu Ser Val Glu Ser Thr Val Glu Ser
```

```
145                     150                     155                     160
Ser Val Asp Lys Ser Lys Pro Trp Ser Arg Ser Ile Glu Asp Leu His
                    165                     170                     175
Arg Gly Ser Asn Leu Pro Ser Pro Val Gly Asn Ser Val Ser Arg Ser
                180                     185                     190
Gly Arg His Ser Ala Leu Arg Tyr Asn Thr Leu Pro Ser Arg Arg Thr
            195                     200                     205
Leu Lys Asn Ser Arg Leu Val Ser Lys Lys Asp Asp Val His Val Cys
        210                     215                     220
Ile Met Cys Leu Arg Ala Ile Met Asn Tyr Gln Tyr Gly Phe Asn Met
225                     230                     235                     240
Val Met Ser His Pro His Ala Val Asn Glu Ile Ala Leu Ser Leu Asn
                    245                     250                     255
Asn Lys Asn Pro Arg Thr Lys Ala Leu Val Leu Glu Leu Leu Ala Ala
                260                     265                     270
Val Cys Leu Val Arg Gly Gly His Glu Ile Ile Leu Ser Ala Phe Asp
            275                     280                     285
Asn Phe Lys Glu Val Cys Gly Glu Lys Gln Arg Phe Glu Lys Leu Met
        290                     295                     300
Glu His Phe Arg Asn Glu Asp Asn Asn Ile Asp Phe Met Val Ala Ser
305                     310                     315                     320
Met Gln Phe Ile Asn Ile Val Val His Ser Val Glu Asp Met Asn Phe
                    325                     330                     335
Arg Val His Leu Gln Tyr Glu Phe Thr Lys Leu Gly Leu Asp Glu Tyr
                340                     345                     350
Leu Asp Lys Leu Lys His Thr Glu Ser Asp Lys Leu Gln Val Gln Ile
                355                     360                     365
Gln Ala Tyr Leu Asp Asn Val Phe Asp Val Gly Ala Leu Leu Glu Asp
            370                     375                     380
Ala Glu Thr Lys Asn Ala Ala
385                     390
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<210> 4095
<211> 253
<212> DNA
<213> Homo sapiens

<400> 4095
ccatgggggg tggggagcag gcctcagcag ggcgggttcc caaaagacag cccagagagc
60
agggtcagat agtgggggggt gggttcagct ccactgtcca ggtgaggaaa ctgaggctga
120
agagagatca agtagcatcc ccagcgaaat ctgaggcctc tggaggcgcc tgtgcacgtg
180
tgtctggaag tgtgtgtcca ggcagcatat ctgcatgtgt gtgcctgtcc agacagcata
240
tctgtgcacg cgt
253


<210> 4096
<211> 83
<212> PRT
<213> Homo sapiens
```

3281

<400> 4096
Met Gly Gly Gly Glu Gln Ala Ser Ala Gly Arg Val Pro Lys Arg Gln
1   5   10   15
Pro Arg Glu Gln Gly Gln Ile Val Gly Gly Gly Phe Ser Ser Thr Val
            20   25   30
Gln Val Arg Lys Leu Arg Leu Lys Arg Asp Gln Val Ala Ser Pro Ala
            35   40   45
Lys Ser Glu Ala Ser Gly Gly Ala Cys Ala Arg Val Ser Gly Ser Val
    50   55   60
Cys Pro Gly Ser Ile Ser Ala Cys Val Cys Leu Ser Arg Gln His Ile
65   70   75   80
Cys Ala Arg

<210> 4097
<211> 1385
<212> DNA
<213> Homo sapiens

<400> 4097
tccggagccc ggagcccgga gccccgcgcg gggcagcccc ccggggagga gcctcgtgct
60
ctgggacgcg tgccgcgcac tggcacggca ggggcgcgag ccaggctgca cgattcactg
120
cgtgctgtcc tcacttgttc tacaatgagt gccaaatctg ctatcagcaa ggaaattttt
180
gcacctcttg atgaaaggat gctgggagct gtccaagtca agaggaggac aaagaaaaag
240
attcctttct tggcaactgg aggtcaaggc gaatatttaa cttatatctg cctgtcagtg
300
acaaacaaga aacccacaca ggcgtccatc acaaaggtca aacagtttga aggctccaca
360
tcatttgttc ggagatcaca gtggatgctc gagcagcttc gccaggttaa tggtatcgat
420
cctaatgggg attcggcaga gtttgatttg ttgtttgaaa atgcttttga ccagtgggta
480
gccagcacag cgtcagaaaa atgcaccttc ttccagatcc tccaccatac ctgccagagg
540
tacctcacgg acaggaagcc agagtttatt aactgccaat ccaaaattat gggaggaaac
600
agcatcctcc attcagctgc tgacagcgtg accagcgcag tgcagaaggc aagccaggcc
660
ttgaatgagc gtggagagcg attaggccga gcagaggaga agacagaaga cctgaagaac
720
agcgcccagc agtttgcaga aactgcgcac aagcttgcca tgaagcacaa atgttgagaa
780
actgcctatc ctggtgactc ttcttaagag aaactgaaga gtttgttcag cagtttttac
840
aagaattcgg gacctccgct tgcttctttt tttccaatat ttggacactt agagtggttt
900
ttgttttttc ttttcagatg ttaatgtgaa agaaagggtg ttgcattttt acatttccct
960
aatgatcttg ctaataaatg ctacaatagc atcagcttca ttttgggttt ttgcctcctc
1020

ccactgtgtg tatgtgtgta tatgtatgtt ttgaatatgt tttctttatt aaaaaatatt
1080
ttttgtagtt tgaatatgaa atttggacca aatgataaac tgcgctgagt ctaaactggc
1140
aacatgtatt tttttctctg atattaagca ggaaggcatt ttaatgtggt gacatcagat
1200
gttatttttc ctagatgaaa ataaaagtca agcagtgatt agtttcactc actgtcctag
1260
ctacacttaa tttgaagatt aaaattctac attgtggaaa acaattgaat ttattgggaa
1320
aaacagcagt cttagatttt gctccttgca tagtaatctt ttgcatgaac catcaccagc
1380
gttca
1385

<210> 4098
<211> 258
<212> PRT
<213> Homo sapiens

<400> 4098
Ser Gly Ala Arg Ser Pro Glu Pro Arg Ala Gly Gln Pro Pro Gly Glu
1   5   10   15
Glu Pro Arg Ala Leu Gly Arg Val Pro Arg Thr Gly Thr Ala Gly Ala
            20   25   30
Arg Ala Arg Leu His Asp Ser Leu Arg Ala Val Leu Thr Cys Ser Thr
        35   40   45
Met Ser Ala Lys Ser Ala Ile Ser Lys Glu Ile Phe Ala Pro Leu Asp
    50   55   60
Glu Arg Met Leu Gly Ala Val Gln Val Lys Arg Arg Thr Lys Lys Lys
65   70   75   80
Ile Pro Phe Leu Ala Thr Gly Gly Gln Gly Glu Tyr Leu Thr Tyr Ile
                85   90   95
Cys Leu Ser Val Thr Asn Lys Lys Pro Thr Gln Ala Ser Ile Thr Lys
            100   105   110
Val Lys Gln Phe Glu Gly Ser Thr Ser Phe Val Arg Arg Ser Gln Trp
        115   120   125
Met Leu Glu Gln Leu Arg Gln Val Asn Gly Ile Asp Pro Asn Gly Asp
    130   135   140
Ser Ala Glu Phe Asp Leu Leu Phe Glu Asn Ala Phe Asp Gln Trp Val
145   150   155   160
Ala Ser Thr Ala Ser Glu Lys Cys Thr Phe Phe Gln Ile Leu His His
                165   170   175
Thr Cys Gln Arg Tyr Leu Thr Asp Arg Lys Pro Glu Phe Ile Asn Cys
            180   185   190
Gln Ser Lys Ile Met Gly Gly Asn Ser Ile Leu His Ser Ala Ala Asp
            195   200   205
Ser Val Thr Ser Ala Val Gln Lys Ala Ser Gln Ala Leu Asn Glu Arg
    210   215   220
Gly Glu Arg Leu Gly Arg Ala Glu Glu Lys Thr Glu Asp Leu Lys Asn
225   230   235   240
Ser Ala Gln Gln Phe Ala Glu Thr Ala His Lys Leu Ala Met Lys His
                245   250   255
Lys Cys

3283

<210> 4099
<211> 511
<212> DNA
<213> Homo sapiens

<400> 4099
accggtggat atagaagtac aggaatctcc aaggcaaatg tcaaaaaaaa aaataagcaa
60
attagggaaa ggttttctgt gaaattacct tctgattgta gccacatgaa acacatcaac
120
ttaaacaata aaaaattgta taatggaatt ggatcagggg gttcccaaaa cccccttcac
180
tgaggtttgg caattcactg agaaggactc acaggactca gcagatagtc atacttgggg
240
ctttgattta ttacatttaa tacagcaaaa agacacaaag caacatttga gaaaggaaaa
300
ggtgcatgtg tcaaagtctg gaggaagcca ggcacaagct acaggagtca tctcctgtgt
360
agctagcagg atatgcttaa ttcccccagc ctcaaatttt gacgacacat gtgcaatgtt
420
gtctacctta ccagagtttc attagaggct cagcacccat gttttcgatg gaggctagtc
480
acataggcaa cctctcctct ccctcacgcg t
511

<210> 4100
<211> 100
<212> PRT
<213> Homo sapiens

<400> 4100
Met Glu Leu Asp Gln Gly Val Pro Lys Thr Pro Phe Thr Glu Val Trp
1   5   10   15
Gln Phe Thr Glu Lys Asp Ser Gln Asp Ser Ala Asp Ser His Thr Trp
            20   25   30
Gly Phe Asp Leu Leu His Leu Ile Gln Gln Lys Asp Thr Lys Gln His
            35   40   45
Leu Arg Lys Glu Lys Val His Val Ser Lys Ser Gly Gly Ser Gln Ala
        50   55   60
Gln Ala Thr Gly Val Ile Ser Cys Val Ala Ser Arg Ile Cys Leu Ile
65   70   75   80
Pro Pro Ala Ser Asn Phe Asp Asp Thr Cys Ala Met Leu Ser Thr Leu
                85   90   95
Pro Glu Phe His
            100

<210> 4101
<211> 536
<212> DNA
<213> Homo sapiens

<400> 4101

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tttttttttt tttttttttt tttttttttt tttttgagga accccagaaa tgtgtttatt
60
aagttggact cgtattgctg tgtggggtcc cagtgcacgc gtgtgcaccc gctacaagat
120
ccaggaaaga tggcacacgg cagacgacga caggaaggac acctgctccc caccctcccc
180
gggaccccgc catgtgcaaa attcgagctg gggtctgcag ctgcttggag agacccaggg
240
cctcttgctc cacagcctgc aaggtctgag caggcaacgg ccctggggcg gtgaggcccc
300
cgcctggtca ctccccgcgc cccccatgca ggcagtggag gggaggacac gcaggaggac
360
cagacgctaa aggtgtaaac gggcagccgt ggcactcctc acctctcaat aaataagata
420
aataactaaa taaataaaca actaaataaa gacatgaagg aatggatgca gagacgtgaa
480
cggatggcgc aggacgtccc tggtgggggc cacggtcccc ttaaggcatg tgggag
536
```

```
<210> 4102
<211> 106
<212> PRT
<213> Homo sapiens
```

```
<400> 4102
Met Cys Leu Leu Ser Trp Thr Arg Ile Ala Val Trp Gly Pro Ser Ala
1               5               10              15
Arg Val Cys Thr Arg Tyr Lys Ile Gln Glu Arg Trp His Thr Ala Asp
            20              25              30
Asp Asp Arg Lys Asp Thr Cys Ser Pro Pro Phe Pro Gly Pro Arg His
            35              40              45
Val Gln Asn Ser Ser Trp Gly Leu Gln Leu Leu Gly Glu Thr Gln Gly
        50              55              60
Leu Leu Leu His Ser Leu Gln Gly Leu Ser Arg Gln Arg Pro Trp Gly
65              70              75              80
Gly Glu Ala Pro Ala Trp Ser Leu Pro Ala Pro Pro Met Gln Ala Val
            85              90              95
Glu Gly Arg Thr Arg Arg Arg Thr Arg Arg
            100             105
```

```
<210> 4103
<211> 3040
<212> DNA
<213> Homo sapiens
```

```
<400> 4103
ncggccgcgt tccccacaga ggacagcagg acttccaagg agagcatgtc ggaggctgat
60
cgcgcccaga agatggacgg ggagtccgag gaggagcagg agtccgtgga caccggggag
120
gaggaggaag gcggtgacga gtctgacctg agttcggaat ccagcattaa gaagaaatct
180
caagaggaaa ggaaagaccg acagtccctg gataagccag ccaggaaaag gaggcggaga
240
```

agtagaaaga agcccagcgg tgccctcggt tctgagtcgt ataagtcatc tgcaggaagc
300

gctgagcaga cggcaccagg agacagcaca gggtacatgg aagtttctct ggactccctg
360

gatctccgag tcaaaggaat tctgtcttca caagcagaag ggttggccaa cggtccagat
420

gtgctggaga cagacggcct ccaggaagtg cctctctgca gctgccggat ggaaacaccg
480

aagagtcgag agatcaccac actggccaac aaccagtgca tggctacaga gagcgtggac
540

catgaattgg gccggtgcac aaacagcgtg gtcaagtatg agctgatgcg cccctccaac
600

aaggccccgc tcctcgtgct gtgtgaagac caccggggcc gcatggtgaa gcaccagtgc
660

tgtcctggct gtggctactt ctgcacagcg ggtaatttta tggagtgtca gcccgagagc
720

agcatctctc accgtttcca caaagactgt gcctctcgag tcaataacgc cagctattgt
780

ccccactgtg gggaggagag ctccaaggcc aaagaggtga cgatagctaa agcagacacc
840

acctcgaccg tgacaccagt cccccgggcag gagaagggct cggccnctgg aggcagggcc
900cgggcagtgc tnngccgggc caccactctc ggaggacgac aagctgcagg   960

gtgcagcctc ccacgntgcc cgagggcttt gatccaacgg gacctgctgg gcttgggagg
1020

ccaactcccg gcctttccca gggaccaggg aaggaaacct tggagagcgc tctcatcgcc
1080

ctcgactcgg aaaaacccaa gaagcttcgc ttccacccaa agcagctgta cttctccgcc
1140

aggcaagggg agcttcagaa ggtgctcctc atgctggtgg acggaattga ccccaacttc
1200

aaaatggagc accagaataa gcgctctcca ctgcacgccg cggcagaggc tggacacgtg
1260

gacatctgcc acatgctggt tcaggcgggc gctaatattg acacctgctc agaagaccag
1320

aggaccccgt tgatggaagc agccgaaaac aaccatctgg aagcagtgaa gtacctcatc
1380

aaggctgggg ccctggtgga tcccaaggac gcagagggct ctacgtgttt gcacctggct
1440

gccaagaaag gccactacga agtggtccag tacctgcttt caaatggacg gatggacgtc
1500

aactgtcagg atgacggagg ctggacaccc atgatctggg ccacagagta caagcacgtg
1560

gacctcgtga agctgctgct gtccaagggc tctgacatca acatccgaga caacgaggag
1620

aacatttgcc tgcactgggc ggcgttctcc ggctgcgtgg acatagccga gatcctgctg
1680

gctgccaagt gcgacctcca cgccgtgaac atccacggag actcgccact gcacattgcc
1740

gcccgggaga accgctacga ctgtgtcgtc ctctttcttt ctcgggattc agatgtcacc
1800

ttaaagaaca aggaaggaga gacgcccctg cagtgtgcga gcctcaactc tcaggtgtgg
1860

agcgctctgc agatgagcaa ggctctgcag gactcggccc ccgacaggcc cagccccgtg
1920

gagaggatag tgagcaggga catcgctcga ggctacgagc gcatccccat cccctgtgtc
1980
aacgccgtgg acagcgagcc atgccccagc aactacaagt acgtctctca gaactgcgtg
2040
acgtccccca tgaacatcga cagaaatatc actcatctgc agtactgcgt gtgcatcgac
2100
gactgctcct ccagcaactg catgtgcggc cagctcagca tgcgctgctg gtacgacaag
2160
gatggccggc tcctgccaga gttcaacatg gcggagcctc ccttgatctt cgaatgcaac
2220
cacgcgtgct cctgctggag gaactgccga aatcgcgtcg tacagaatgg tctcagggca
2280
aggctgcagc tctaccggac gcgggacatg gctggggcg tgcggtccct gcaggacatc
2340
ccaccaggca cctttgtctg cgagtatgtt ggggagctga tttcagactc agaagccgac
2400
gttcgagagg aagattctta cctctttgat ctcgacaata aggacgggga ggtttactgc
2460
atcgacgcgc ggttctacgg gaacgtcagc cggttcatca accaccactg cgagcccaac
2520
ctggtgcccg tgcgcgtgtt catggcccac caggacctgc ggttcccccg gatcgccttc
2580
ttcagcaccc gcctgatcga ggccggcgag cagctcgggt ttgactatgg agagcgcttc
2640
tgggacatca aaggcaagct cttcagctgc cgctgcggct cccccaagtg ccggcactcg
2700
agcgcggccc tggcccagcg tcaggccagc gcggcccagg aggcccagga ggacggcttg
2760
cccgacacca gctccgcggc tgccgcgacc ccctatgaga cgccgccggc cagcggggcg
2820
ctcgggagcc agggaccgcc gcgtcgccga ttagaggacg aggaggagag attccgcacg
2880
caaccgaaag ggtccttcgg ggctgcgccg ccggcttcct ggaggggtcg gaggtgaggc
2940
tgcagcccct gcgggcgggt gtggatgcct cccagccacc ttcccaaacc tgcggcctca
3000
ccgcgggccc agtgcccagg ctggagcgca cactttggtg
3040

<210> 4104
<211> 978
<212> PRT
<213> Homo sapiens

<400> 4104
Xaa Ala Ala Phe Pro Thr Glu Asp Ser Arg Thr Ser Lys Glu Ser Met
1   5   10   15
Ser Glu Ala Asp Arg Ala Gln Lys Met Asp Gly Glu Ser Glu Glu Glu
              20   25   30
Gln Glu Ser Val Asp Thr Gly Glu Glu Glu Gly Gly Asp Glu Ser
          35   40   45
Asp Leu Ser Ser Glu Ser Ser Ile Lys Lys Lys Ser Gln Glu Glu Arg
      50   55   60
Lys Asp Arg Gln Ser Leu Asp Lys Pro Ala Arg Lys Arg Arg Arg Arg

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```
        65                      70                      75                      80
Ser Arg Lys Lys Pro Ser Gly Ala Leu Gly Ser Glu Ser Tyr Lys Ser
                        85                      90                      95
Ser Ala Gly Ser Ala Glu Gln Thr Ala Pro Gly Asp Ser Thr Gly Tyr
                100                     105                     110
Met Glu Val Ser Leu Asp Ser Leu Asp Leu Arg Val Lys Gly Ile Leu
            115                     120                     125
Ser Ser Gln Ala Glu Gly Leu Ala Asn Gly Pro Asp Val Leu Glu Thr
        130                     135                     140
Asp Gly Leu Gln Glu Val Pro Leu Cys Ser Cys Arg Met Glu Thr Pro
145                     150                     155                     160
Lys Ser Arg Glu Ile Thr Thr Leu Ala Asn Asn Gln Cys Met Ala Thr
                165                     170                     175
Glu Ser Val Asp His Glu Leu Gly Arg Cys Thr Asn Ser Val Val Lys
                180                     185                     190
Tyr Glu Leu Met Arg Pro Ser Asn Lys Ala Pro Leu Leu Val Leu Cys
            195                     200                     205
Glu Asp His Arg Gly Arg Met Val Lys His Gln Cys Cys Pro Gly Cys
    210                     215                     220
Gly Tyr Phe Cys Thr Ala Gly Asn Phe Met Glu Cys Gln Pro Glu Ser
225                     230                     235                     240
Ser Ile Ser His Arg Phe His Lys Asp Cys Ala Ser Arg Val Asn Asn
                245                     250                     255
Ala Ser Tyr Cys Pro His Cys Gly Glu Glu Ser Ser Lys Ala Lys Glu
            260                     265                     270
Val Thr Ile Ala Lys Ala Asp Thr Thr Ser Thr Val Thr Pro Val Pro
            275                     280                     285
Gly Gln Glu Lys Gly Ser Ala Xaa Gly Gly Arg Ala Asp Thr Thr Thr
    290                     295                     300
Gly Ser Ala Xaa Pro Gly His His Ser Arg Arg Thr Thr Ser Cys Arg
305                     310                     315                     320
Val Gln Pro Pro Thr Xaa Pro Glu Gly Phe Asp Pro Thr Gly Pro Ala
                325                     330                     335
Gly Leu Gly Arg Pro Thr Pro Gly Leu Ser Gln Gly Pro Gly Lys Glu
            340                     345                     350
Thr Leu Glu Ser Ala Leu Ile Ala Leu Asp Ser Glu Lys Pro Lys Lys
            355                     360                     365
Leu Arg Phe His Pro Lys Gln Leu Tyr Phe Ser Ala Arg Gln Gly Glu
    370                     375                     380
Leu Gln Lys Val Leu Leu Met Leu Val Asp Gly Ile Asp Pro Asn Phe
385                     390                     395                     400
Lys Met Glu His Gln Asn Lys Arg Ser Pro Leu His Ala Ala Ala Glu
                405                     410                     415
Ala Gly His Val Asp Ile Cys His Met Leu Val Gln Ala Gly Ala Asn
            420                     425                     430
Ile Asp Thr Cys Ser Glu Asp Gln Arg Thr Pro Leu Met Glu Ala Ala
            435                     440                     445
Glu Asn Asn His Leu Glu Ala Val Lys Tyr Leu Ile Lys Ala Gly Ala
    450                     455                     460
Leu Val Asp Pro Lys Asp Ala Glu Gly Ser Thr Cys Leu His Leu Ala
465                     470                     475                     480
Ala Lys Lys Gly His Tyr Glu Val Val Gln Tyr Leu Leu Ser Asn Gly
                485                     490                     495
Arg Met Asp Val Asn Cys Gln Asp Asp Gly Gly Trp Thr Pro Met Ile
```

```
                  500                    505                    510
Trp Ala Thr Glu Tyr Lys His Val Asp Leu Val Lys Leu Leu Leu Ser
        515                    520                    525
Lys Gly Ser Asp Ile Asn Ile Arg Asp Asn Glu Glu Asn Ile Cys Leu
        530                    535                    540
His Trp Ala Ala Phe Ser Gly Cys Val Asp Ile Ala Glu Ile Leu Leu
545                    550                    555                    560
Ala Ala Lys Cys Asp Leu His Ala Val Asn Ile His Gly Asp Ser Pro
                  565                    570                    575
Leu His Ile Ala Ala Arg Glu Asn Arg Tyr Asp Cys Val Val Leu Phe
                  580                    585                    590
Leu Ser Arg Asp Ser Asp Val Thr Leu Lys Asn Lys Glu Gly Glu Thr
                  595                    600                    605
Pro Leu Gln Cys Ala Ser Leu Asn Ser Gln Val Trp Ser Ala Leu Gln
        610                    615                    620
Met Ser Lys Ala Leu Gln Asp Ser Ala Pro Asp Arg Pro Ser Pro Val
625                    630                    635                    640
Glu Arg Ile Val Ser Arg Asp Ile Ala Arg Gly Tyr Glu Arg Ile Pro
                  645                    650                    655
Ile Pro Cys Val Asn Ala Val Asp Ser Glu Pro Cys Pro Ser Asn Tyr
                  660                    665                    670
Lys Tyr Val Ser Gln Asn Cys Val Thr Ser Pro Met Asn Ile Asp Arg
        675                    680                    685
Asn Ile Thr His Leu Gln Tyr Cys Val Cys Ile Asp Asp Cys Ser Ser
        690                    695                    700
Ser Asn Cys Met Cys Gly Gln Leu Ser Met Arg Cys Trp Tyr Asp Lys
705                    710                    715                    720
Asp Gly Arg Leu Leu Pro Glu Phe Asn Met Ala Glu Pro Pro Leu Ile
                  725                    730                    735
Phe Glu Cys Asn His Ala Cys Ser Cys Trp Arg Asn Cys Arg Asn Arg
                  740                    745                    750
Val Val Gln Asn Gly Leu Arg Ala Arg Leu Gln Leu Tyr Arg Thr Arg
        755                    760                    765
Asp Met Gly Trp Gly Val Arg Ser Leu Gln Asp Ile Pro Pro Gly Thr
        770                    775                    780
Phe Val Cys Glu Tyr Val Gly Glu Leu Ile Ser Asp Ser Glu Ala Asp
785                    790                    795                    800
Val Arg Glu Glu Asp Ser Tyr Leu Phe Asp Leu Asp Asn Lys Asp Gly
                  805                    810                    815
Glu Val Tyr Cys Ile Asp Ala Arg Phe Tyr Gly Asn Val Ser Arg Phe
        820                    825                    830
Ile Asn His His Cys Glu Pro Asn Leu Val Pro Val Arg Val Phe Met
        835                    840                    845
Ala His Gln Asp Leu Arg Phe Pro Arg Ile Ala Phe Phe Ser Thr Arg
        850                    855                    860
Leu Ile Glu Ala Gly Glu Gln Leu Gly Phe Asp Tyr Gly Glu Arg Phe
865                    870                    875                    880
Trp Asp Ile Lys Gly Lys Leu Phe Ser Cys Arg Cys Gly Ser Pro Lys
                  885                    890                    895
Cys Arg His Ser Ser Ala Ala Leu Ala Gln Arg Gln Ala Ser Ala Ala
                  900                    905                    910
Gln Glu Ala Gln Glu Asp Gly Leu Pro Asp Thr Ser Ser Ala Ala Ala
        915                    920                    925
Ala Thr Pro Tyr Glu Thr Pro Pro Ala Ser Gly Ala Leu Gly Ser Gln
```

```
       930              935              940
Gly Pro Pro Arg Arg Arg Leu Glu Asp Glu Glu Glu Arg Phe Arg Thr
945                  950              955              960
Gln Pro Lys Gly Ser Phe Gly Ala Ala Pro Pro Ala Ser Trp Arg Gly
                965              970              975
Arg Arg
```

<210> 4105
<211> 775
<212> DNA
<213> Homo sapiens

<400> 4105
```
ncccgggcgt ctcccatcaa ctcccagcc agaggtactc catctcccaa gaggatgccc
60
tcaggtcgtg ggggacggga ccgcttcacc gctgagtcct acacagttct gggggacacg
120
ctgatcgacg gcggggagca ttactgggag gtgcgctacg agccggacag caaggcgttc
180
ggcgtgggcg tggcctaccg cagcctgggc cgcttcgagc aactgggcaa gacggccgcc
240
tcctggtgcc tgcactcaac aattggctgc aggtcagctt cacggaagca cgccaacaag
300
gtcaaggtgc tggacgcccc cgtgcccgac tgcctgggtg tgcactgtga cttccaccaa
360
ggcctcctgt ccttctacaa tgcccgcacc aaacaagtgc tgcacacttt caagaccagg
420
ttcacacagc cgctgctgcc tgctttcacg gtatggtgtg gcagcttcca ggtgacgaca
480
ggcctgcagg tccccagtgc tgtgcgctgc ctgcaaaagc gaggcagtgc taccagcagc
540
tccaacacca gcctcaccta ggcccccagg cacccaccca gctggggtgt ttttggggga
600
gtcgccgcca agcccaggct gctggagcca ggcaccctcc tctgtcactt gctgcttgga
660
gccttaactc cagatggggg ggtcaccaag agggagtggg caccctggcg ggccctctcc
720
ccacctcacc tcttaataaa ggtcagacac tggccaggca aaaaaaaaaa aaata
775
```

<210> 4106
<211> 186
<212> PRT
<213> Homo sapiens

<400> 4106
```
Xaa Arg Ala Ser Pro Ile Asn Ser Pro Ala Arg Gly Thr Pro Ser Pro
1               5               10              15
Lys Arg Met Pro Ser Gly Arg Gly Gly Arg Asp Arg Phe Thr Ala Glu
            20              25              30
Ser Tyr Thr Val Leu Gly Asp Thr Leu Ile Asp Gly Gly Glu His Tyr
        35              40              45
Trp Glu Val Arg Tyr Glu Pro Asp Ser Lys Ala Phe Gly Val Gly Val
```

```
         50                      55                      60
Ala Tyr Arg Ser Leu Gly Arg Phe Glu Gln Leu Gly Lys Thr Ala Ala
65                      70                      75                      80
Ser Trp Cys Leu His Ser Thr Ile Gly Cys Arg Ser Ala Ser Arg Lys
                    85                      90                      95
His Ala Asn Lys Val Lys Val Leu Asp Ala Pro Val Pro Asp Cys Leu
                100                     105                     110
Gly Val His Cys Asp Phe His Gln Gly Leu Leu Ser Phe Tyr Asn Ala
                115                     120                     125
Arg Thr Lys Gln Val Leu His Thr Phe Lys Thr Arg Phe Thr Gln Pro
            130                     135                     140
Leu Leu Pro Ala Phe Thr Val Trp Cys Gly Ser Phe Gln Val Thr Thr
145                     150                     155                     160
Gly Leu Gln Val Pro Ser Ala Val Arg Cys Leu Gln Lys Arg Gly Ser
                    165                     170                     175
Ala Thr Ser Ser Ser Asn Thr Ser Leu Thr
                    180                     185
```

<210> 4107
<211> 1442
<212> DNA
<213> Homo sapiens

<400> 4107
ngcacgaggc ggtgccgggg gcggggcgcg gcggctgtca gctgactgtg gcggcggcgg
60
cctcgaggtg acaacttgtc tccgtcgcag gctccggcgg gggcgcagga ggtcgcccgg
120
cgcgtcactg tcgggtcggc gagccacggg ggccgccgca gcaccatggc gaccaccgtc
180
agcactcagc gcgggccggt gtacatcggt gagctcccgc aggacttcct ccgcatcacg
240
cccacacagc agcagcggca ggtccagctg gacgcccagg cgcccagcag ctgcagtacg
300
gaggcgcagg gcaccgtggg ccgactgaac atcacggtgg tacaggcaaa gttggccaag
360
aattacggca tgacccgcat ggacccctac tgccgactgc gcctgggcta cgcggtgtac
420
gagacgccca cggcacacaa tggcgccaag aatccccgct ggaataaggt catccactgc
480
acggtgcccc aggcgtgga ctctttctat ctcgagatct tcgatgagag agccttctcc
540
atggacgacc gcattgcctg gacccacatc accatcccgg agtccctgag gcagggcaag
600
gtggaggaca agtggtacag cctgagcggg aggcagggg acgacaagga gggcatgatc
660
aacctcgtca tgtcctacgc gctgcttcca gctgccatgg tgatgccacc ccagcccgtg
720
gtcctgatgc caacagtgta ccagcagggc gttggctatg tgcccatcac agggatgccc
780
gctgtctgta gccccggcat ggtgcccgtg ccctgcccc cggccgccgt gaacgcccag
840
ccccgctgta gcgaggagga cctgaaagcc atccaggaca tgttccccaa catggaccag
900
```

gaggtgatcc gctccgtgct ggaagcccag cgagggaaca aggatgccgc catcaactcc
960
ctgctgcaga tggggggagga gccatagagc ctctgcctcg atgccgtttt gcccccgctc
1020
tttggacacg ccgacccggc gctccccaag gaatgctgtc ccaacaagat tcccgtgaaa
1080
gagcaccgt gtcgccccct cccgtggact tctgtgccgc cccgtccaca cctgttcttg
1140
ggtgcatgtg ggttttcggt tcctggcggt ccaggacggg gcggggggctc ccctcccatc
1200
tcgtgctggg aggtctcagc gcgctctcct gtccctggga cgtgcgtctc tccttctcat
1260
gccgttctgg aaaatgctct tgctgtagag agcagctgct tctgccaggg tgttggaggt
1320
ggtggagcgc cttccgattc cattcatggc attttgtgat gtgatgtaat tggaatagag
1380
ctgttgattt aaggcacaca caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1440
aa
1442


<210> 4108
<211> 273
<212> PRT
<213> Homo sapiens

<400> 4108
Met Ala Thr Thr Val Ser Thr Gln Arg Gly Pro Val Tyr Ile Gly Glu
1               5                   10                  15
Leu Pro Gln Asp Phe Leu Arg Ile Thr Pro Thr Gln Gln Gln Arg Gln
            20                  25                  30
Val Gln Leu Asp Ala Gln Ala Pro Ser Ser Cys Ser Thr Glu Ala Gln
        35                  40                  45
Gly Thr Val Gly Arg Leu Asn Ile Thr Val Val Gln Ala Lys Leu Ala
        50                  55                  60
Lys Asn Tyr Gly Met Thr Arg Met Asp Pro Tyr Cys Arg Leu Arg Leu
65                  70                  75                  80
Gly Tyr Ala Val Tyr Glu Thr Pro Thr Ala His Asn Gly Ala Lys Asn
                85                  90                  95
Pro Arg Trp Asn Lys Val Ile His Cys Thr Val Pro Pro Gly Val Asp
                100                 105                 110
Ser Phe Tyr Leu Glu Ile Phe Asp Glu Arg Ala Phe Ser Met Asp Asp
            115                 120                 125
Arg Ile Ala Trp Thr His Ile Thr Ile Pro Glu Ser Leu Arg Gln Gly
        130                 135                 140
Lys Val Glu Asp Lys Trp Tyr Ser Leu Ser Gly Arg Gln Gly Asp Asp
145                 150                 155                 160
Lys Glu Gly Met Ile Asn Leu Val Met Ser Tyr Ala Leu Leu Pro Ala
                165                 170                 175
Ala Met Val Met Pro Pro Gln Pro Val Val Leu Met Pro Thr Val Tyr
            180                 185                 190
Gln Gln Gly Val Gly Tyr Val Pro Ile Thr Gly Met Pro Ala Val Cys
        195                 200                 205
Ser Pro Gly Met Val Pro Val Ala Leu Pro Pro Ala Ala Val Asn Ala

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```
         210                    215                    220
Gln Pro Arg Cys Ser Glu Glu Asp Leu Lys Ala Ile Gln Asp Met Phe
225                    230                    235                    240
Pro Asn Met Asp Gln Glu Val Ile Arg Ser Val Leu Glu Ala Gln Arg
                       245                    250                    255
Gly Asn Lys Asp Ala Ala Ile Asn Ser Leu Leu Gln Met Gly Glu Glu
                  260                    265                    270
Pro
```

```
<210> 4109
<211> 1637
<212> DNA
<213> Homo sapiens
```

```
<400> 4109
gctgccctga agctacatgg gaagtgtgat gacgtcatgc ggctcctcat ggccgagctg
60
ggcttggaga tccccgccta tagcaggtgg caggatccca ttttctcact ggcgactccc
120
ctgcgtgctg gtgaagaagg cagccacagt cggaagtcgc tgtgcagaag cagagaggag
180
ctgcggggga aggtccggga gctggccagc gccgtccgga cgccaaata cttggtcgtc
240
tacacaggcg cgggaatcag cacggcagcg tctatcccag actaccgggg ccctaatgga
300
gtgtggacac tgcttcagaa agggagaagc gttagtgctg ccgacctgag cgaggccgag
360
ccaaccctca cccacatgag catcacccgt ctgcatgagc agaagctggt gcagcatgtg
420
gtgtctcaga actgtgacgg gctccacctg aggagtgggc tgccgcgcac ggccatctcc
480
gagctccacg ggaacatgta cattgaagtc tgtacctcct gcgttcccaa cagggagtac
540
gtgcgggtgt cgatgtgac ggagcgcact gccctccaca gacaccagac aggccggacc
600
tgccacaagt gtgggaccca gctgcgggac accattgtgc actttgggga gaggggggacg
660
ttggggcagc ctctgaactg ggaagcggcg accgaggctg ccagcagagc agacaccatc
720
ctgtgtctag gtccagcct gaaggttcta aagaagtacc cacgcctctg gtgcatgacc
780
aagcccctg ccggcggccg actttacatc gtgaacctgc agtggacccc gaaggatgac
840
tgggctgccc tgaagctaca tgggaagtgt gatgacgtca tgcggctcct catggccgag
900
ctgggcttgg agatccccgc ctatagcagg tggcaggatc ccattttctc actggcgact
960
cccctgcgtg ctggtgaaga aggcagccac agtcggaagt cgctgtgcag aagcagagag
1020
gaggccccgc ctggggaccg gggtgcaccg cttagctcgg ccccatcct aggggggctgg
1080
tttggcaggg gctgcacaaa acgcacaaaa aggaagaaag tgacgtaatc acgtgctcga
1140
```

```
tgaagaacag ttggcacttt gcagatggcc agtgtcacgg tgaaggctgg gttgcccca
1200
cgggtctagg gagaacgaac tctttgggga tgacattttc accgtgacat ttttagccat
1260
ttgtccttga ggaagcccct tgcactgctg cggttgtacc ctgatacggc ctggccatcg
1320
aggacacctg cccatccggc ctctgtgtca agaggtggca gccgcacctt tctgtgagaa
1380
cggaactcgg gttatttcag ccccggcctg cagagtggaa gcgcccagcg gcctttcctc
1440
gctcaccagg ccagtctcag ggcctcaccg tatttctact actacttaat gaaaaagtgt
1500
gaactttata gaatcctctc tgtactggat gtgcggcaga ggggtggctc cgagcctcgg
1560
ctctatgcag acctttttat ttctattaaa cgttctgca ctggcaaaaa aaaaaaaaa
1620
aaaaaaaaaa aaaaaaa
1637


<210> 4110
<211> 375
<212> PRT
<213> Homo sapiens


<400> 4110
Ala Ala Leu Lys Leu His Gly Lys Cys Asp Asp Val Met Arg Leu Leu
1               5                  10                  15
Met Ala Glu Leu Gly Leu Glu Ile Pro Ala Tyr Ser Arg Trp Gln Asp
                20                  25                  30
Pro Ile Phe Ser Leu Ala Thr Pro Leu Arg Ala Gly Glu Glu Gly Ser
            35                  40                  45
His Ser Arg Lys Ser Leu Cys Arg Ser Arg Glu Glu Leu Arg Gly Lys
        50                  55                  60
Val Arg Glu Leu Ala Ser Ala Val Arg Asn Ala Lys Tyr Leu Val Val
65                  70                  75                  80
Tyr Thr Gly Ala Gly Ile Ser Thr Ala Ala Ser Ile Pro Asp Tyr Arg
                85                  90                  95
Gly Pro Asn Gly Val Trp Thr Leu Leu Gln Lys Gly Arg Ser Val Ser
            100                 105                 110
Ala Ala Asp Leu Ser Glu Ala Glu Pro Thr Leu Thr His Met Ser Ile
        115                 120                 125
Thr Arg Leu His Glu Gln Lys Leu Val Gln His Val Val Ser Gln Asn
        130                 135                 140
Cys Asp Gly Leu His Leu Arg Ser Gly Leu Pro Arg Thr Ala Ile Ser
145                 150                 155                 160
Glu Leu His Gly Asn Met Tyr Ile Glu Val Cys Thr Ser Cys Val Pro
                165                 170                 175
Asn Arg Glu Tyr Val Arg Val Phe Asp Val Thr Glu Arg Thr Ala Leu
            180                 185                 190
His Arg His Gln Thr Gly Arg Thr Cys His Lys Cys Gly Thr Gln Leu
        195                 200                 205
Arg Asp Thr Ile Val His Phe Gly Glu Arg Gly Thr Leu Gly Gln Pro
        210                 215                 220
Leu Asn Trp Glu Ala Ala Thr Glu Ala Ala Ser Arg Ala Asp Thr Ile
```

3294

```
225                230                235                240
Leu Cys Leu Gly Ser Ser Leu Lys Val Leu Lys Lys Tyr Pro Arg Leu
                245                250                255
Trp Cys Met Thr Lys Pro Pro Ala Gly Gly Arg Leu Tyr Ile Val Asn
                260                265                270
Leu Gln Trp Thr Pro Lys Asp Asp Trp Ala Ala Leu Lys Leu His Gly
            275                280                285
Lys Cys Asp Asp Val Met Arg Leu Leu Met Ala Glu Leu Gly Leu Glu
    290                295                300
Ile Pro Ala Tyr Ser Arg Trp Gln Asp Pro Ile Phe Ser Leu Ala Thr
305                310                315                320
Pro Leu Arg Ala Gly Glu Glu Gly Ser His Ser Arg Lys Ser Leu Cys
                325                330                335
Arg Ser Arg Glu Glu Ala Pro Pro Gly Asp Arg Gly Ala Pro Leu Ser
            340                345                350
Ser Ala Pro Ile Leu Gly Gly Trp Phe Gly Arg Gly Cys Thr Lys Arg
        355                360                365
Thr Lys Arg Lys Lys Val Thr
    370                375
```

<210> 4111
<211> 2599
<212> DNA
<213> Homo sapiens

<400> 4111
nccttgtagt tctcaccagg cttgtggaac ttaagggcct cccccggag ctgctccatc
60
agagacaggg tctggtcagc agtctcgcca ttctccacca catccttttt agtttccggt
120
gtctctgcaa tggcggctct agactccctg tcgctcttca ctagcctcgg cctgagcgag
180
cagaaggccc gcgagacgct caagaactcg gctctgagcg cgcagctgcg cgaggccgct
240
actcaggctc agcagaccct gggttccacc attgacaaag ctaccgggat cctgttatat
300
ggcttggcct cccgactcag ggatacccgg cgtctctcct tccttgtaag ctacatagcc
360
agtaagaaga tccacactga gccccagcta agcgctgccc ttgagtatgt gcggagtcac
420
cccttggacc ccatcgacac tgtggacttc gagcgggaat gtggcgtggg tgtcattgtg
480
accccagagc agattgagga ggctgtggag ctgctatta acaggcaccg gccccagctc
540
ctggtggaac gttaccattt caacatgggg ctgctgatgg gagaggctcg ggctgtgctg
600
aagtgggcag atggcaaaat gatcaagaat gaagtggaca tgcaggtcct ccaccttctg
660
ggccccaagt tggaggctga tctggagaag aagttcaagg tggcaaaagc tcggctagaa
720
gaaacagacc ggaggacggc aaaggatgtg gtggagaatg cgagactgc tgaccagacc
780
ctgtctctga tggagcagct ccggggggag gcccttaagt tccacaagcc tggtgagaac
840
```

tacaagaccc caggctatgt ggtcactcca cacaccatga atctactaaa gcagcacctg
900
gagattactg gtgggcaggt acgtacccgg ttcccgccag aacccaatgg aatcctgcat
960
attggacatg ccaaagccat caatttcaac tttggctatg ccaaggccaa caatggcatc
1020
tgttttctgc gttttgatga caccaaccct gagaaggagg aagcaaagtt cttcacggcc
1080
atctgtgaca tggtagcctg gctaggctac acaccttaca aagtcacata tgcgtctgac
1140
tattttgacc agctatatgc gtgggctgtg gagctcatcc gcaggggtct ggcttatgtg
1200
tgccaccagc gaggagagga gctcaaaggc cataatactc tgccttcacc ctggagagac
1260
cgtcccatgg aggagtcact gctgctcttt gaggcaatgc gcaagggcaa gttttcagag
1320
ggcgaggcca cactacggat gaagctggtg atggaggatg gcaagatgga ccctgtagcc
1380
tatcgagtca agtatacacc acaccaccgc acaggggaca aatggtgcat ctatcccacc
1440
tacgactaca cacactgcct ctgtgactcc atcgagcaca tcactcactc actctgcacc
1500
aaggaattcc aggcccgacg ctcttcctac ttctggcttt gcaatgcact ggacgtctat
1560
tgccctgtgc agtgggagta tggccgcctc aacctgcact atgctgttgt ctctaagagg
1620
aagatcctcc agcttgtagc aactggtgct gtgcgggact gggatgaccc acggctcttt
1680
acactcacgg ccctgcgacg gcggggcttc ccacctgagg ccatcaacaa cttctgtgcc
1740
cgggtgggag tgactgtggc acaaaccaca atggagccac atcttctaga agcctgtgtg
1800
cgtgatgtgc tgaatgacac agccccacga gccatggctg tgctggagtc actacgggtc
1860
atcatcacca actttcctgc tgccaagtcc ttggacatcc aggtgcccaa cttcccagct
1920
gatgagacca aaggcttcca tcaggttccc tttgcaccca ttgtcttcat tgagaggact
1980
gacttcaagg aggagccaga gccaggattt aagcgcctgg cttggggcca gcctgtgggc
2040
ctgaggcata caggctacgt cattgagctg cagcatgttg tcaagggccc cagtggttgt
2100
gtagagagtc tggaggtgac ctgcagacgg gcagatgctg gagagaagcc aaaggccttt
2160
attcactggg tgtcacagcc tttgatgtgt gaggttcgcc tctatgagcg actattccag
2220
cacaagaacc ctgaagatcc tactgaggtg cctggtggat ttttaagtga cctgaacctg
2280
gcatcactac acgtggtgga tgcagcatta gtggactgct ctgtggccct ggcaaaaccc
2340
ttcgacaagt ccagtttga gcgtcttgga tatttctccg tggatccaga cagccatcag
2400
ggaaagcttg tctttaaccg aactgtcaca ctgaaggaag acccaggaaa ggtgtgagct
2460

ggaagcactg aacctacctc atcctcctgg agggtgtggc taccctcgcc accccaaatt
2520
ccatgtcaat aaagaacagc taaattcaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
2580
aaaaaaaaag atctttaat
2599

<210> 4112
<211> 775
<212> PRT
<213> Homo sapiens

<400> 4112
Met Ala Ala Leu Asp Ser Leu Ser Leu Phe Thr Ser Leu Gly Leu Ser
1   5   10   15
Glu Gln Lys Ala Arg Glu Thr Leu Lys Asn Ser Ala Leu Ser Ala Gln
            20   25   30
Leu Arg Glu Ala Ala Thr Gln Ala Gln Gln Thr Leu Gly Ser Thr Ile
        35   40   45
Asp Lys Ala Thr Gly Ile Leu Leu Tyr Gly Leu Ala Ser Arg Leu Arg
    50   55   60
Asp Thr Arg Arg Leu Ser Phe Leu Val Ser Tyr Ile Ala Ser Lys Lys
65   70   75   80
Ile His Thr Glu Pro Gln Leu Ser Ala Ala Leu Glu Tyr Val Arg Ser
                85   90   95
His Pro Leu Asp Pro Ile Asp Thr Val Asp Phe Glu Arg Glu Cys Gly
            100   105   110
Val Gly Val Ile Val Thr Pro Glu Gln Ile Glu Glu Ala Val Glu Ala
            115   120   125
Ala Ile Asn Arg His Arg Pro Gln Leu Leu Val Glu Arg Tyr His Phe
    130   135   140
Asn Met Gly Leu Leu Met Gly Glu Ala Arg Ala Val Leu Lys Trp Ala
145   150   155   160
Asp Gly Lys Met Ile Lys Asn Glu Val Asp Met Gln Val Leu His Leu
                165   170   175
Leu Gly Pro Lys Leu Glu Ala Asp Leu Glu Lys Lys Phe Lys Val Ala
            180   185   190
Lys Ala Arg Leu Glu Glu Thr Asp Arg Arg Thr Ala Lys Asp Val Val
            195   200   205
Glu Asn Gly Glu Thr Ala Asp Gln Thr Leu Ser Leu Met Glu Gln Leu
    210   215   220
Arg Gly Glu Ala Leu Lys Phe His Lys Pro Gly Glu Asn Tyr Lys Thr
225   230   235   240
Pro Gly Tyr Val Val Thr Pro His Thr Met Asn Leu Leu Lys Gln His
                245   250   255
Leu Glu Ile Thr Gly Gly Gln Val Arg Thr Arg Phe Pro Pro Glu Pro
            260   265   270
Asn Gly Ile Leu His Ile Gly His Ala Lys Ala Ile Asn Phe Asn Phe
            275   280   285
Gly Tyr Ala Lys Ala Asn Asn Gly Ile Cys Phe Leu Arg Phe Asp Asp
    290   295   300
Thr Asn Pro Glu Lys Glu Glu Ala Lys Phe Phe Thr Ala Ile Cys Asp
305   310   315   320
Met Val Ala Trp Leu Gly Tyr Thr Pro Tyr Lys Val Thr Tyr Ala Ser

```
                      325                    330                    335
Asp Tyr Phe Asp Gln Leu Tyr Ala Trp Ala Val Glu Leu Ile Arg Arg
              340                    345                    350
Gly Leu Ala Tyr Val Cys His Gln Arg Gly Glu Glu Leu Lys Gly His
              355                    360                    365
Asn Thr Leu Pro Ser Pro Trp Arg Asp Arg Pro Met Glu Glu Ser Leu
              370                    375                    380
Leu Leu Phe Glu Ala Met Arg Lys Gly Lys Phe Ser Glu Gly Glu Ala
385                    390                    395                    400
Thr Leu Arg Met Lys Leu Val Met Glu Asp Gly Lys Met Asp Pro Val
                   405                    410                    415
Ala Tyr Arg Val Lys Tyr Thr Pro His His Arg Thr Gly Asp Lys Trp
              420                    425                    430
Cys Ile Tyr Pro Thr Tyr Asp Tyr Thr His Cys Leu Cys Asp Ser Ile
              435                    440                    445
Glu His Ile Thr His Ser Leu Cys Thr Lys Glu Phe Gln Ala Arg Arg
         450                    455                    460
Ser Ser Tyr Phe Trp Leu Cys Asn Ala Leu Asp Val Tyr Cys Pro Val
465                    470                    475                    480
Gln Trp Glu Tyr Gly Arg Leu Asn Leu His Tyr Ala Val Val Ser Lys
              485                    490                    495
Arg Lys Ile Leu Gln Leu Val Ala Thr Gly Ala Val Arg Asp Trp Asp
              500                    505                    510
Asp Pro Arg Leu Phe Thr Leu Thr Ala Leu Arg Arg Arg Gly Phe Pro
         515                    520                    525
Pro Glu Ala Ile Asn Asn Phe Cys Ala Arg Val Gly Val Thr Val Ala
         530                    535                    540
Gln Thr Thr Met Glu Pro His Leu Leu Glu Ala Cys Val Arg Asp Val
545                    550                    555                    560
Leu Asn Asp Thr Ala Pro Arg Ala Met Ala Val Leu Glu Ser Leu Arg
              565                    570                    575
Val Ile Ile Thr Asn Phe Pro Ala Ala Lys Ser Leu Asp Ile Gln Val
              580                    585                    590
Pro Asn Phe Pro Ala Asp Glu Thr Lys Gly Phe His Gln Val Pro Phe
         595                    600                    605
Ala Pro Ile Val Phe Ile Glu Arg Thr Asp Phe Lys Glu Glu Pro Glu
         610                    615                    620
Pro Gly Phe Lys Arg Leu Ala Trp Gly Gln Pro Val Gly Leu Arg His
625                    630                    635                    640
Thr Gly Tyr Val Ile Glu Leu Gln His Val Val Lys Gly Pro Ser Gly
                   645                    650                    655
Cys Val Glu Ser Leu Glu Val Thr Cys Arg Arg Ala Asp Ala Gly Glu
              660                    665                    670
Lys Pro Lys Ala Phe Ile His Trp Val Ser Gln Pro Leu Met Cys Glu
         675                    680                    685
Val Arg Leu Tyr Glu Arg Leu Phe Gln His Lys Asn Pro Glu Asp Pro
         690                    695                    700
Thr Glu Val Pro Gly Gly Phe Leu Ser Asp Leu Asn Leu Ala Ser Leu
705                    710                    715                    720
His Val Val Asp Ala Ala Leu Val Asp Cys Ser Val Ala Leu Ala Lys
                   725                    730                    735
Pro Phe Asp Lys Phe Gln Phe Glu Arg Leu Gly Tyr Phe Ser Val Asp
              740                    745                    750
Pro Asp Ser His Gln Gly Lys Leu Val Phe Asn Arg Thr Val Thr Leu
```

```
         755              760              765
Lys Glu Asp Pro Gly Lys Val
    770              775
```

<210> 4113
<211> 1894
<212> DNA
<213> Homo sapiens

<400> 4113
cgccctgtga gggacaagcg tttgccgtag gggttgaaaa gaattggggt gcagtagttc
60
gctccccaga agggaccccc cagaaaatcc ggcagctgat agatgagggg attgccccgg
120
taagagggag gcgtggacgc gaaggacacg tctgccacat cccagtcagt taatggatca
180
ccccaagcgg aacaaccttc attggaatct acaagcaaag aagccttctt tagcagagtg
240
gaaacatttt cttctttgaa atgggcgggt aagccctttg agctgtctcc actcgtctgt
300
gcaaaatatg ctgggtcac agtggaatgt gatatgctca agtgctctag ctgtcaagct
360
tttctctgtg ccagtttaca accagctttt gactttgaca gatataagca acgatgtgct
420
gagctgaaga aagccttgtg tactgcccat gagaagttct gtttctggcc agacagccca
480
tccccagacc gatttgggat gttgcccctg gatgagcctg ctattcttgt tagtgaattc
540
ctagatcgtt ttcaaagcct ttgtcacttg acctccagc ttccttccct aaggccggag
600
gacttgaaaa ctatgtgctt gacagaagac aagatcagtc ttctcctaca cttgcttgaa
660
gatgaacttg atcaccgaac tgatgagaga aaaactacaa tcaaattagg ctcagacatc
720
caagtccacg tcactgcctg tattctctct gtgtgtggct gggcgtgtag ttcctctttg
780
gaatccatgc agctctccct gatagcatgt tcgcaatgta tgaggaaggt ggggctctgg
840
ggcttccagc agattgaatc gtccatgact gacctggatg catcctttgg cctgaccagc
900
tccccaatcc caggccttga ggggcgacca gagcgcttac ctctggtgcc tgaatctcct
960
cggaggatga tgacccggag ccaggatgcc actttctccc caggctcaga gcaggctgaa
1020
aagagccctg gtcccattgt ctctcgaact cggagctggg actcttccag tcctgttgac
1080
cgtcctgagc cagaggctgc tagccccacc accagaactc gcccagtgac ccgaagcatg
1140
ggaacaggag acacccctgg cctggaggta ccatctagcn cctctgcgga aagccaagcg
1200
agctcgctct gctcctccag cagttcggac acatcttccc gaagcttctt tgatcccacc
1260
tctcagcata gagactggtg cccttgggtg aatatcacac ttggcaaaga aagcagggag
1320
```

```
aatggtggaa ctgaaccaga tgccagcgcc ccagcagagc caggctggaa agcagtgctg
1380
accatcctct tggcgcacaa acagtctagc cagccagctg aaacggactc catgagtctc
1440
tctgagaaat caaggaaagt attccgaata tttcggcagt gggaatctct gtgctcatgc
1500
tgaagatact ccagcgcctt cctggagata gctggaatga gagtgacttt ttgaaaaatt
1560
aaggctgagt tcctttcggt cagctgacac taagtttttc ctgttctggg ttaatcataa
1620
ggagccccct gccatagcaa aggcagtgag tgtcaactat ctgcatctgg ctgagagaga
1680
cccgtttcct ttcagggatg tggacagggt aagggcagca agcatggttc tgttaaagga
1740
gtgtggggtt aacagactag aaggaagact aaggacctga ccacccattt cagcatcttc
1800
aatgtggagc agtgttctga ggactcttct atcctaggac tatgacagtg tgtattaata
1860
aaatatttgc taagaaaaaa aaaaaaaaaa aaaa
1894
```

```
<210> 4114
<211> 389
<212> PRT
<213> Homo sapiens
```

```
<400> 4114
Met Leu Lys Cys Ser Ser Cys Gln Ala Phe Leu Cys Ala Ser Leu Gln
1               5                   10                  15
Pro Ala Phe Asp Phe Asp Arg Tyr Lys Gln Arg Cys Ala Glu Leu Lys
                20                  25                  30
Lys Ala Leu Cys Thr Ala His Glu Lys Phe Cys Phe Trp Pro Asp Ser
                35                  40                  45
Pro Ser Pro Asp Arg Phe Gly Met Leu Pro Leu Asp Glu Pro Ala Ile
            50                  55                  60
Leu Val Ser Glu Phe Leu Asp Arg Phe Gln Ser Leu Cys His Leu Asp
65                  70                  75                  80
Leu Gln Leu Pro Ser Leu Arg Pro Glu Asp Leu Lys Thr Met Cys Leu
                85                  90                  95
Thr Glu Asp Lys Ile Ser Leu Leu Leu His Leu Leu Glu Asp Glu Leu
            100                 105                 110
Asp His Arg Thr Asp Glu Arg Lys Thr Thr Ile Lys Leu Gly Ser Asp
        115                 120                 125
Ile Gln Val His Val Thr Ala Cys Ile Leu Ser Val Cys Gly Trp Ala
        130                 135                 140
Cys Ser Ser Ser Leu Glu Ser Met Gln Leu Ser Leu Ile Ala Cys Ser
145                 150                 155                 160
Gln Cys Met Arg Lys Val Gly Leu Trp Gly Phe Gln Gln Ile Glu Ser
                165                 170                 175
Ser Met Thr Asp Leu Asp Ala Ser Phe Gly Leu Thr Ser Ser Pro Ile
                180                 185                 190
Pro Gly Leu Glu Gly Arg Pro Glu Arg Leu Pro Leu Val Pro Glu Ser
            195                 200                 205
Pro Arg Arg Met Met Thr Arg Ser Gln Asp Ala Thr Phe Ser Pro Gly
```

3300

```
            210                    215                    220
Ser Glu Gln Ala Glu Lys Ser Pro Gly Pro Ile Val Ser Arg Thr Arg
225                    230                    235                    240
Ser Trp Asp Ser Ser Ser Pro Val Asp Arg Pro Glu Pro Glu Ala Ala
                245                    250                    255
Ser Pro Thr Thr Arg Thr Arg Pro Val Thr Arg Ser Met Gly Thr Gly
                260                    265                    270
Asp Thr Pro Gly Leu Glu Val Pro Ser Ser Xaa Ser Ala Glu Ser Gln
            275                    280                    285
Ala Ser Ser Leu Cys Ser Ser Ser Ser Ser Asp Thr Ser Ser Arg Ser
            290                    295                    300
Phe Phe Asp Pro Thr Ser Gln His Arg Asp Trp Cys Pro Trp Val Asn
305                    310                    315                    320
Ile Thr Leu Gly Lys Glu Ser Arg Glu Asn Gly Gly Thr Glu Pro Asp
                325                    330                    335
Ala Ser Ala Pro Ala Glu Pro Gly Trp Lys Ala Val Leu Thr Ile Leu
            340                    345                    350
Leu Ala His Lys Gln Ser Ser Gln Pro Ala Glu Thr Asp Ser Met Ser
            355                    360                    365
Leu Ser Glu Lys Ser Arg Lys Val Phe Arg Ile Phe Arg Gln Trp Glu
        370                    375                    380
Ser Leu Cys Ser Cys
385
```

```
<210> 4115
<211> 1056
<212> DNA
<213> Homo sapiens

<400> 4115
ccaaatccag ttttcatatt taaagcgaat gagccccctc ctctcagtgg gaaagatgag
60
ctgaagcttt actccctcga tagtgttggg aaaagaaatc agacaaaaat ctaaggaagg
120
accaaatatt gtacagagtg tgccagtagg cttttgcaac tggactgaaa atacctgcct
180
tttctctcca caggggaaag tggaagttga agctgggaaa gaaggtatga agtttgaagc
240
gagcgccttc tcatactatg gcgtgatggc cctgacagcc tctccaggtg aaaataagtc
300
ccctcctcgc ccatgtggct tgaatcactc agactctctc agtcgaagcg accggattga
360
cgccgtcaca ccaacactgg ggagcagcaa taaccagctc aattcttcgc tcctccaagt
420
ctacatcccc gattactcgg tgcgagccct ttcggatctg cagtttgtta agatctcaag
480
acagcaatac caaaatgcct tgatggcatc ccggatggac aaaacccccc agtcttcaga
540
cagtgaaaac actaaaatcg aattgactct tacggagctg catgacgggt tgccagacga
600
gacagccaac ctgctcaacg aacagaactg tgtgacgcac agtaaggcca accacagcct
660
gcacaacgaa ggcgccatct aggccgcgct ggctgcaccc gcccaggccc gcacccgccc
720
```

                                  3301

```
agtcccgagg gcccggccct gtctgcccat gacttcactg gtgtgagctt gtccgccatg
780
ctgtaccctg caacatcctg agaccaaaga ccttgtgccc ttcccaggag ccgcggagga
840
ggacagtgag ggaggaatgg aaacgagaga tgtgaagttg gcagccgggg catggcgttc
900
aagattttgg agatgaactg attccgccca aatagaatca tgtttatttt ttcagctctc
960
cctttatca ttattcacac tcctctgccc tcgatttgca tgaagttgaa aattgttgcg
1020
atttatttt tcaagagatc atgttttaa agtgtc
1056
```

<210> 4116
<211> 151
<212> PRT
<213> Homo sapiens

<400> 4116

```
Met Lys Phe Glu Ala Ser Ala Phe Ser Tyr Tyr Gly Val Met Ala Leu
 1               5                   10                  15
Thr Ala Ser Pro Gly Glu Asn Lys Ser Pro Pro Arg Pro Cys Gly Leu
            20                  25                  30
Asn His Ser Asp Ser Leu Ser Arg Ser Asp Arg Ile Asp Ala Val Thr
        35                  40                  45
Pro Thr Leu Gly Ser Ser Asn Asn Gln Leu Asn Ser Ser Leu Leu Gln
    50                  55                  60
Val Tyr Ile Pro Asp Tyr Ser Val Arg Ala Leu Ser Asp Leu Gln Phe
65                  70                  75                  80
Val Lys Ile Ser Arg Gln Gln Tyr Gln Asn Ala Leu Met Ala Ser Arg
                85                  90                  95
Met Asp Lys Thr Pro Gln Ser Ser Asp Ser Glu Asn Thr Lys Ile Glu
            100                 105                 110
Leu Thr Leu Thr Glu Leu His Asp Gly Leu Pro Asp Glu Thr Ala Asn
        115                 120                 125
Leu Leu Asn Glu Gln Asn Cys Val Thr His Ser Lys Ala Asn His Ser
    130                 135                 140
Leu His Asn Glu Gly Ala Ile
145                 150
```

<210> 4117
<211> 973
<212> DNA
<213> Homo sapiens

<400> 4117

```
nnagaccgcg ttgtcgtctc tccggggggag tgagggctga aggggtggct cctgcagtcc
60
ggctgccaga ggctccccag gcaccggtcc ctgcaggcat ttggcactag ggaaggttcc
120
tgggtctcct gggcaccact cagagctctg tgcctgtggg tccaacaagt ccagagctgt
180
tggcactggt gcttcccggc tctggggcag tccggggggct gcaagtggaa acccaggggc
240
```

cctgcctggc tggggactaa gcagtgtcca gagtgggggc agggagaaca gagggcttga
300
ggagggaggc agaggcctgt cagtgggtac cctcctccct cccatgcaca tctaggtccc
360
caggcacagc ctgctgtaca agcacacgac tggcctgggt gtgggcgttg gcctcagcca
420
cctggaggca tcttggagtg ggagaggtgt gttggttgcc caaggccagc cagacctgcg
480
tcaccgtcac cgggagaagc taccccgccc ccttcttcag ggatctccgc agtgaagcct
540
cctctaagga gtcctaggac tctcccttta gagttgggga caggggggtg tgtttgtgct
600
ggcctgggtc caaatactcc agggtgtcag ctccatcccc ctgctgtcct ctgtccccag
660
gggctgggaa gacaccaacg gctgtgaaca aactcgctga tttcttcacc aagacggtga
720
ggcggaggca ctggctgcaa aagtccaccc cctctagacc tctgcaacca cagaatcccc
780
agcccaaagg cctttgctgg tttgagttga attcagtgtg gactgaagga aaaacatatc
840
tattcacacc tcagagtgac catccgagct cctggtgact ggaaaaaaga aatgggtcac
900
cctttggcct gcgaggactg ggcgggaggc cccagcccag gcgacacagg agcttccacc
960
tcccttcacg cgt
973

<210> 4118
<211> 128
<212> PRT
<213> Homo sapiens

<400> 4118
Gly Gly Arg Gln Arg Pro Val Ser Gly Tyr Pro Pro Pro Ser His Ala
1   5   10   15
His Leu Gly Pro Gln Ala Gln Pro Ala Val Gln Ala His Asp Trp Pro
                20   25   30
Gly Cys Gly Arg Trp Pro Gln Pro Pro Gly Gly Ile Leu Glu Trp Glu
            35   40   45
Arg Cys Val Gly Cys Pro Arg Pro Ala Arg Pro Ala Ser Pro Ser Pro
        50   55   60
Gly Glu Ala Thr Pro Pro Pro Ser Ser Gly Ile Ser Ala Val Lys Pro
65   70   75   80
Pro Leu Arg Ser Pro Arg Thr Leu Pro Leu Glu Leu Gly Thr Gly Gly
                85   90   95
Cys Val Cys Ala Gly Leu Gly Pro Asn Thr Pro Gly Cys Gln Leu His
            100   105   110
Pro Pro Ala Val Leu Cys Pro Gln Gly Leu Gly Arg His Gln Arg Leu
        115   120   125

<210> 4119
<211> 649
<212> DNA
<213> Homo sapiens

<400> 4119
nnagatctcc aacctctgac aagttgtcat ggcaaagtcc taagaaggat catggcaatt
60
agggtggctc tccatgtccc atgacgaaac ccaaacactg aatgttgtgc aatcataaaa
120
accaattttc tgaactacaa aaatgatcga accataaaaa tcaggaacac ctctggttcc
180
agtcagacta aagatcagag gatccctggt cgtccagcct tccaacatcc ctgaccttct
240
gaagtctaag atctctagct gggatgtgct tcttctcctt tcttcttact gtaacacctc
300
ttcctacaga gctctggcct ctctacatgg attgggaacc agatgttgtc cctgagcagc
360
ctcccaccgt gggctgtcac cctgctggca tgcatcctcg tgtccattgt cactgagttt
420
gtgagcaacc cagcaaccat caccatcttc ctgcccatcc tgtgcagcct ggtgagtaat
480
gcggagctcc cagacatcca gacaggctgt cccagggggcc tggagtggca ggcctggctc
540
agggcagctt ccgtagctgt aggctctcct ctggttactg cccacagcct tcactaattg
600
gtgttcaatt cctactttga aaaatgaagt ttttcaaata gcaactagt
649

<210> 4120
<211> 100
<212> PRT
<213> Homo sapiens

<400> 4120
His Leu Phe Leu Gln Ser Ser Gly Leu Ser Thr Trp Ile Gly Asn Gln
1   5   10   15
Met Leu Ser Leu Ser Ser Leu Pro Pro Trp Ala Val Thr Leu Leu Ala
            20   25   30
Cys Ile Leu Val Ser Ile Val Thr Glu Phe Val Ser Asn Pro Ala Thr
        35   40   45
Ile Thr Ile Phe Leu Pro Ile Leu Cys Ser Leu Val Ser Asn Ala Glu
    50   55   60
Leu Pro Asp Ile Gln Thr Gly Cys Pro Arg Gly Leu Glu Trp Gln Ala
65   70   75   80
Trp Leu Arg Ala Ala Ser Val Ala Val Gly Ser Pro Leu Val Thr Ala
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His Ser Leu His
            100

<210> 4121
<211> 2490
<212> DNA
<213> Homo sapiens

<400> 4121
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120
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180
ttgcagggct ttcggctgga ggagtatctg ataggcagt ccattggtaa gggctgcagt
240
gctgctgtgt atgaagccac catgcctaca ttgccccaga acctggaggt gacaaagagc
300
accgggttgc ttccagggag aggcccaggt accagtgcac caggagaagg gcaggagcga
360
gctccggggg cccctgcctt ccccttggcc atcaagatga tgtggaacat ctcggcaggt
420
tcctccagcg aagccatctt gaacacaatg agccaggagc tggtcccagc gagccgagtg
480
gccttggctg gggagtatgg agcagtcact tacagaaaat ccaagagagg tcccaagcaa
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720
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1140
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1320
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1500
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1560
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1620
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1680
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3305

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1800
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1860
acctggatga aggcagacat caacatgggt cagcacgttc agttacggga gtgggaaatt
1920
acatgaggcc tgggcctctg cgttcccaag ctgtgcgttc tggaccagct actgaattat
1980
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2100
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2160
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2220
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2280
gtcaacatgc agtaaaggtt gtcttcaact gagctgttct agttttctct tacccagcac
2340
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2400
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2460
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2490
```

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<210> 4122
<211> 494
<212> PRT
<213> Homo sapiens
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<400> 4122
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Phe Gly Leu Gly Leu Gly Leu Ile Glu Glu Lys Gln Ala Glu Ser Arg
            20                  25                  30
Arg Ala Val Ser Ala Cys Gln Glu Ile Gln Ala Ile Phe Thr Gln Lys
        35                  40                  45
Ser Lys Pro Gly Pro Asp Pro Leu Asp Thr Arg Arg Leu Gln Gly Phe
    50                  55                  60
Arg Leu Glu Glu Tyr Leu Ile Gly Gln Ser Ile Gly Lys Gly Cys Ser
65                  70                  75                  80
Ala Ala Val Tyr Glu Ala Thr Met Pro Thr Leu Pro Gln Asn Leu Glu
                85                  90                  95
Val Thr Lys Ser Thr Gly Leu Leu Pro Gly Arg Gly Pro Gly Thr Ser
            100                 105                 110
Ala Pro Gly Glu Gly Gln Glu Arg Ala Pro Gly Ala Pro Ala Phe Pro
        115                 120                 125
Leu Ala Ile Lys Met Met Trp Asn Ile Ser Ala Gly Ser Ser Ser Glu
    130                 135                 140
Ala Ile Leu Asn Thr Met Ser Gln Glu Leu Val Pro Ala Ser Arg Val
```

3306

```
         145                  150                  155                  160
Ala Leu Ala Gly Glu Tyr Gly Ala Val Thr Tyr Arg Lys Ser Lys Arg
                    165              170                  175
Gly Pro Lys Gln Leu Ala Pro His Pro Asn Ile Ile Arg Val Leu Arg
                180                  185                  190
Ala Phe Thr Ser Ser Val Pro Leu Leu Pro Gly Ala Leu Val Asp Tyr
            195                  200                  205
Pro Asp Val Leu Pro Ser Arg Leu His Pro Glu Gly Leu Gly His Gly
        210                  215                  220
Arg Thr Leu Phe Leu Val Met Lys Asn Tyr Pro Cys Thr Leu Arg Gln
    225                  230                  235                  240
Tyr Leu Cys Val Asn Thr Pro Ser Pro Arg Leu Ala Ala Met Met Leu
                245                  250                  255
Leu Gln Leu Leu Glu Gly Val Asp His Leu Val Gln Gln Gly Ile Ala
            260                  265                  270
His Arg Asp Leu Lys Ser Asp Asn Ile Leu Val Glu Leu Asp Pro Asp
        275                  280                  285
Gly Cys Pro Trp Leu Val Ile Ala Asp Phe Gly Cys Cys Leu Ala Asp
    290                  295                  300
Glu Ser Ile Gly Leu Gln Leu Pro Phe Ser Ser Trp Tyr Val Asp Arg
305                  310                  315                  320
Gly Gly Asn Gly Cys Leu Met Ala Pro Glu Val Ser Thr Ala Arg Pro
                325                  330                  335
Gly Pro Arg Ala Val Ile Asp Tyr Ser Lys Ala Asp Ala Trp Ala Val
            340                  345                  350
Gly Ala Ile Ala Tyr Glu Ile Phe Gly Leu Val Asn Pro Phe Tyr Gly
            355                  360                  365
Gln Gly Lys Ala His Leu Glu Ser Arg Ser Tyr Gln Glu Ala Gln Leu
        370                  375                  380
Pro Ala Leu Pro Glu Ser Val Pro Pro Asp Val Arg Gln Leu Val Arg
385                  390                  395                  400
Ala Leu Leu Gln Arg Glu Ala Ser Lys Arg Pro Ser Ala Arg Val Ala
                405                  410                  415
Ala Asn Val Leu His Leu Ser Leu Trp Gly Glu His Ile Leu Ala Leu
            420                  425                  430
Lys Asn Leu Lys Leu Asp Lys Met Val Gly Trp Leu Leu Gln Gln Ser
        435                  440                  445
Ala Ala Thr Leu Leu Ala Asn Arg Leu Thr Glu Lys Cys Cys Val Glu
    450                  455                  460
Thr Lys Met Lys Met Leu Phe Leu Ala Asn Leu Glu Cys Glu Thr Leu
465                  470                  475                  480
Cys Gln Ala Ala Leu Leu Leu Cys Ser Trp Arg Ala Ala Leu
                485                  490
```

ggtccccgtc gcggcaggcg cggtgcagcg ggaaacggag cgagagcagc tcctcgctgg
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480
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600
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780
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960
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1095

<210> 4124
<211> 155
<212> PRT
<213> Homo sapiens

<400> 4124
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Glu Glu Leu Leu Ser Leu Arg Phe Pro Leu His Arg Ala Cys Arg Asp
            20   25   30
Gly Asp Leu Ala Thr Leu Cys Ser Leu Leu Gln Gln Thr Pro His Ala
        35   40   45
His Leu Ala Ser Glu Asp Ser Phe Tyr Gly Trp Thr Pro Val His Trp
    50   55   60
Ala Ala His Phe Gly Lys Leu Glu Cys Leu Val Gln Leu Val Arg Ala
65   70   75   80
Gly Ala Thr Leu Asn Val Ser Thr Thr Arg Tyr Ala Gln Thr Pro Ala
                85   90   95
His Ile Ala Ala Phe Gly Gly His Pro Gln Cys Leu Val Trp Leu Ile

```
                  100                 105              110
Gln Ala Gly Ala Asn Ile Asn Lys Pro Asp Cys Glu Gly Glu Thr Pro
          115                 120                 125
Ile His Lys Ala Ala Arg Ser Gly Ser Leu Glu Cys Ile Ser Ala Leu
      130                 135                 140
Val Ala Asn Gly Ala His Val Asp Ser Gln His
145                 150                 155
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<210> 4125
<211> 4711
<212> DNA
<213> Homo sapiens
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<400> 4125
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120
tcatgcagcg ttcgcgcacc ggagagaaaa ctgagaatga aattgctttg gcaagctaaa
180
atgagctcga ttcaggactg gggtgaagag gtagaggaag gagctgttta ccatgtcacc
240
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300
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360
ataaaagctg gcaccttgga gaagcttgtg gagaacctgc tgacagcttt tggggacaat
420
gactttacct atatcagcat ctttctttca acgtacagag gctttgcctc cactaaagaa
480
gtgctggaac tactgctgga caggtatgga aacctgacaa gcccaaactg tgaagaagat
540
ggaagccaaa gttcatcaga gtccaaaatg gtgatcagga atgcaatcgc ttccatacta
600
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840
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960
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1020
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1080
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1200
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3309

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2700
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2760
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2820
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4440
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3311

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<210> 4126
<211> 820
<212> PRT
<213> Homo sapiens

<400> 4126
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 1   5   10   15
Gly Pro Gly Pro Gly Arg Gly Ala Ala Gly Leu Ser Pro Ala Asp Ile
            20   25   30
Ala Leu Ala Ser Glu Gln Gly Ala Ser Cys Ser Val Arg Ala Pro Glu
        35   40   45
Arg Lys Leu Arg Met Lys Leu Leu Trp Gln Ala Lys Met Ser Ser Ile
    50   55   60
Gln Asp Trp Gly Glu Glu Val Glu Glu Gly Ala Val Tyr His Val Thr
65   70   75   80
Leu Lys Arg Val Gln Ile Gln Gln Ala Ala Asn Lys Gly Ala Arg Trp
                85   90   95
Leu Gly Val Glu Gly Asp Gln Leu Pro Pro Gly His Thr Val Ser Gln
            100   105   110
Tyr Glu Thr Cys Lys Ile Arg Thr Ile Lys Ala Gly Thr Leu Glu Lys
        115   120   125
Leu Val Glu Asn Leu Leu Thr Ala Phe Gly Asp Asn Asp Phe Thr Tyr
    130   135   140
Ile Ser Ile Phe Leu Ser Thr Tyr Arg Gly Phe Ala Ser Thr Lys Glu
145   150   155   160
Val Leu Glu Leu Leu Leu Asp Arg Tyr Gly Asn Leu Thr Ser Pro Asn
                165   170   175
Cys Glu Glu Asp Gly Ser Gln Ser Ser Ser Glu Ser Lys Met Val Ile
            180   185   190
Arg Asn Ala Ile Ala Ser Ile Leu Arg Ala Trp Leu Asp Gln Cys Ala
        195   200   205
Glu Asp Phe Arg Glu Pro Pro His Phe Pro Cys Leu Gln Lys Leu Leu
    210   215   220
Asp Tyr Leu Thr Arg Met Met Pro Gly Ser Asp Pro Glu Arg Arg Ala
225   230   235   240
Gln Asn Leu Leu Glu Gln Phe Gln Lys Gln Glu Val Glu Thr Asp Asn
                245   250   255
Gly Leu Pro Asn Thr Ile Ser Phe Ser Leu Glu Glu Glu Glu Glu Leu
            260   265   270
Glu Gly Gly Glu Ser Ala Glu Phe Thr Cys Phe Ser Glu Asp Leu Val
        275   280   285
Ala Glu Gln Leu Thr Tyr Met Asp Ala Gln Leu Phe Lys Lys Val Val

```
        290                    295                   300
Pro His His Cys Leu Gly Cys Ile Trp Ser Arg Arg Asp Lys Lys Glu
305                    310                   315                   320
Asn Lys His Leu Ala Pro Thr Ile Arg Ala Thr Ile Ser Gln Phe Asn
              325                   330                   335
Thr Leu Thr Lys Cys Val Val Ser Thr Ile Leu Gly Gly Lys Glu Leu
              340                   345                   350
Lys Thr Gln Gln Arg Ala Lys Ile Ile Glu Lys Trp Ile Asn Ile Ala
              355                   360                   365
His Glu Cys Arg Leu Leu Lys Asn Phe Ser Ser Leu Arg Ala Ile Val
      370                   375                   380
Ser Ala Leu Gln Ser Asn Ser Ile Tyr Arg Leu Lys Lys Thr Trp Ala
385                   390                   395                   400
Ala Val Pro Arg Asp Arg Met Leu Met Phe Glu Glu Leu Ser Asp Ile
              405                   410                   415
Phe Ser Asp His Asn Asn His Leu Thr Ser Arg Glu Leu Leu Met Lys
              420                   425                   430
Glu Gly Thr Ser Lys Phe Ala Asn Leu Asp Ser Ser Val Lys Glu Asn
              435                   440                   445
Gln Lys Arg Thr Gln Arg Arg Leu Gln Leu Gln Lys Asp Met Gly Val
      450                   455                   460
Met Gln Gly Thr Val Pro Tyr Leu Gly Thr Phe Leu Thr Asp Leu Thr
465                   470                   475                   480
Met Leu Asp Thr Ala Leu Gln Asp Tyr Ile Glu Gly Gly Leu Ile Asn
              485                   490                   495
Phe Glu Lys Arg Arg Arg Glu Phe Glu Val Ile Ala Gln Ile Lys Leu
              500                   505                   510
Leu Gln Ser Ala Cys Asn Ser Tyr Cys Met Thr Pro Asp Gln Lys Phe
              515                   520                   525
Ile Gln Trp Phe Gln Arg Gln Gln Leu Leu Thr Glu Glu Glu Ser Tyr
      530                   535                   540
Ala Leu Ser Cys Glu Ile Glu Ala Ala Ala Gly Ala Ser Thr Thr Ser
545                   550                   555                   560
Pro Lys Pro Arg Lys Ser Met Val Lys Arg Leu Ser Leu Leu Phe Leu
              565                   570                   575
Gly Ser Asp Met Ile Thr Ser Pro Thr Pro Thr Lys Glu Gln Pro Lys
              580                   585                   590
Ser Thr Ala Ser Gly Ser Ser Gly Glu Ser Met Asp Ser Val Ser Val
              595                   600                   605
Ser Ser Cys Glu Ser Asn His Ser Glu Ala Glu Glu Gly Ser Ile Thr
      610                   615                   620
Pro Met Asp Thr Pro Asp Glu Pro Gln Lys Lys Leu Ser Glu Ser Ser
625                   630                   635                   640
Ser Ser Cys Ser Ser Ile His Ser Met Asp Thr Asn Ser Ser Gly Met
              645                   650                   655
Ser Ser Leu Ile Asn Pro Leu Ser Ser Pro Pro Ser Cys Asn Asn Asn
              660                   665                   670
Pro Lys Ile His Lys Arg Ser Val Ser Val Thr Ser Ile Thr Ser Thr
      675                   680                   685
Val Leu Pro Pro Val Tyr Asn Gln Gln Asn Glu Asp Thr Cys Ile Ile
      690                   695                   700
Arg Ile Ser Val Glu Asp Asn Asn Gly Asn Met Tyr Lys Ser Ile Met
705                   710                   715                   720
Leu Thr Ser Gln Asp Lys Thr Pro Ala Val Ile Gln Arg Ala Met Leu
```

```
                    725                    730                    735
Lys His Asn Leu Asp Ser Asp Pro Ala Glu Glu Tyr Glu Leu Val Gln
                740             745                     750
Val Ile Ser Glu Asp Lys Glu Leu Val Ile Pro Asp Ser Ala Asn Val
            755                     760                 765
Phe Tyr Ala Met Asn Ser Gln Val Asn Phe Asp Phe Ile Leu Arg Lys
        770                     775                 780
Lys Asn Ser Met Glu Glu Gln Val Lys Leu Arg Ser Arg Thr Ser Leu
785                     790                 795                 800
Thr Leu Pro Arg Thr Ala Lys Arg Gly Cys Trp Ser Asn Arg His Ser
                    805                 810                 815
Lys Ile Thr Leu
            820
```

<210> 4127
<211> 2189
<212> DNA
<213> Homo sapiens

<400> 4127
ccatgcttcc tgccctcggc caccagcaag ctgtcgggcg cagtggagca gtggctgagt
60
gcagctgagc ggctgtatgg gccctacatg tggggcaggt acgacattgt cttcctgcca
120
ccctccttcc ccatcgtggc catggagaac ccctgcctca ccttcatcat ctcctccatc
180
ctggagagcg atgagttcct ggtcatcgat gtcatccacg aggtggccca cagttggttc
240
ggcaacgctg tcaccaacgc cacgtgggaa gagatgtggc tgagcgaggg cctggccacc
300
tatgcccagc gccgtatcac caccgagacc tacggtgctg ccttcacctg cctggagact
360
gccttccgcc tggacgccct gcaccggcag atgaagcttc tgggagagga cagcccggtc
420
agcaaactgc aggtcaagct ggagccagga gtgaatccca gccacctgat gaacctgttc
480
acctacgaga agggctactg cttcgtgtac tacctgtccc agctctgcgg agacccacag
540
cgctttgatg actttctccg agcctatgtg gagaagtaca agttcaccag cgtggtggcc
600
caggacctgc tggactcctt cctgagcttc ttcccggagc tgaaggagca gagcgtggac
660
tgccgggcag ggctggaatt cgagcgctgg ctcaatgcca caggcccgcc gctggctgag
720
ccggacctgt ctcagggatc cagcctgacc cggcccgtgg aggccctttt ccagctgtgg
780
accgcagaac tctggacca ggcagctgcc tccgccagcg ccattgacat ctccaagtgg
840
aggaccttcc agacagcact cttcctggac cggctcctgg atgggtcccc gctgccgcag
900
gaggtggtga tgagcctgtc caagtgctac tcctccctgc tggactcgat gaacgctgag
960
atccgcatcc gctggctgca gattgtggtc cgcaacgact actatcctga cctccacagg
1020
```

```
gtgcggcgct tcctggagag ccagatgtca cgcatgtaca ccatcccgct gtacgaggac
1080
ctctgcaccg gtgccctcaa gtccttcgcg ctggaggtct tctaccagac gcagggccgg
1140
ctgcacccca acctgcgcag agccatccag cagatcctgt cccagggcct gggctccagc
1200
acagagcccg cctcagagcc cagcacggag ctgggcaagg ctgaagcaga cacagactcg
1260
gacgcacagg ccctgctgct tggggacgag gccccagca gtgccatctc tctcagggac
1320
gtcaatgtgt ctgcctagcc ctgttggcgg gctgaccctc gacctcccag acaccacaat
1380
tgtgccttct gtgggccagg cctgccatga ctgcgtctcg gctctggcca tgagctctgc
1440
ccaggcccac aagcccctcc cctgggctct cccaggcagg gagaatgggg agagggacct
1500
ccttgtgtct ggcagagacc tgtggacctg gcctccccac tcccagctct cttgcactgc
1560
aggccctggg gccagcccgc acacaccatg cctcctgtct caacactgac agctgtgcct
1620
agccccggat gccagcacct gccaggtgcc gccccggggc aagggcccca gcagccctat
1680
ggtgaccgcc acactgtgcc ttaatgtctg ccggggggccc aggctgtgct gtccctgcag
1740
cacgcctcct tgcagggatc tgagccaccc tccccgcaca gccctgcacc ccgcccctag
1800
ggttggcagc ctcagttggc ccctggcaga ggaacaagga cacagacatt ccctcagtgt
1860
gggggggcagg ggacacaggg agaggatggt tgtccctggg gagggccctc tggccccagg
1920
caaccttagc ccctcagaac agggagtccc aggacccagg gagagtgtgg ggacaggaca
1980
gcctgtctct tgtagcttcc tggggtggga ggcacagggg caaagcaata ccccagggaa
2040
agtgggaggt ggtgctggtg ctctctccag gcccaccatg ctgggagagg cggccagagc
2100
ctggggcctc cagcctggga ctgctgtgat ggggtatcac ggtgatggtc ccattaaact
2160
tccactctgc aaacctgaaa aaaaaaaaa
2189
```

```
<210> 4128
<211> 445
<212> PRT
<213> Homo sapiens
```

```
<400> 4128
Pro Cys Phe Leu Pro Ser Ala Thr Ser Lys Leu Ser Gly Ala Val Glu
 1               5                  10                  15
Gln Trp Leu Ser Ala Ala Glu Arg Leu Tyr Gly Pro Tyr Met Trp Gly
                20                  25                  30
Arg Tyr Asp Ile Val Phe Leu Pro Ser Phe Pro Ile Val Ala Met
        35                  40                  45
Glu Asn Pro Cys Leu Thr Phe Ile Ile Ser Ser Ile Leu Glu Ser Asp
```

```
        50                    55                    60
Glu Phe Leu Val Ile Asp Val Ile His Glu Val Ala His Ser Trp Phe
 65                    70                    75                    80
Gly Asn Ala Val Thr Asn Ala Thr Trp Glu Glu Met Trp Leu Ser Glu
                    85                    90                    95
Gly Leu Ala Thr Tyr Ala Gln Arg Arg Ile Thr Thr Glu Thr Tyr Gly
                   100                   105                   110
Ala Ala Phe Thr Cys Leu Glu Thr Ala Phe Arg Leu Asp Ala Leu His
                   115                   120                   125
Arg Gln Met Lys Leu Leu Gly Glu Asp Ser Pro Val Ser Lys Leu Gln
         130                   135                   140
Val Lys Leu Glu Pro Gly Val Asn Pro Ser His Leu Met Asn Leu Phe
 145                   150                   155                   160
Thr Tyr Glu Lys Gly Tyr Cys Phe Val Tyr Tyr Leu Ser Gln Leu Cys
                   165                   170                   175
Gly Asp Pro Gln Arg Phe Asp Asp Phe Leu Arg Ala Tyr Val Glu Lys
              180                   185                   190
Tyr Lys Phe Thr Ser Val Val Ala Gln Asp Leu Leu Asp Ser Phe Leu
         195                   200                   205
Ser Phe Phe Pro Glu Leu Lys Glu Gln Ser Val Asp Cys Arg Ala Gly
         210                   215                   220
Leu Glu Phe Glu Arg Trp Leu Asn Ala Thr Gly Pro Pro Leu Ala Glu
 225                   230                   235                   240
Pro Asp Leu Ser Gln Gly Ser Ser Leu Thr Arg Pro Val Glu Ala Leu
                   245                   250                   255
Phe Gln Leu Trp Thr Ala Glu Pro Leu Asp Gln Ala Ala Ala Ser Ala
                   260                   265                   270
Ser Ala Ile Asp Ile Ser Lys Trp Arg Thr Phe Gln Thr Ala Leu Phe
                   275                   280                   285
Leu Asp Arg Leu Leu Asp Gly Ser Pro Leu Pro Gln Glu Val Val Met
         290                   295                   300
Ser Leu Ser Lys Cys Tyr Ser Ser Leu Leu Asp Ser Met Asn Ala Glu
 305                   310                   315                   320
Ile Arg Ile Arg Trp Leu Gln Ile Val Val Arg Asn Asp Tyr Tyr Pro
                   325                   330                   335
Asp Leu His Arg Val Arg Arg Phe Leu Glu Ser Gln Met Ser Arg Met
              340                   345                   350
Tyr Thr Ile Pro Leu Tyr Glu Asp Leu Cys Thr Gly Ala Leu Lys Ser
              355                   360                   365
Phe Ala Leu Glu Val Phe Tyr Gln Thr Gln Gly Arg Leu His Pro Asn
         370                   375                   380
Leu Arg Arg Ala Ile Gln Gln Ile Leu Ser Gln Gly Leu Gly Ser Ser
 385                   390                   395                   400
Thr Glu Pro Ala Ser Glu Pro Ser Thr Glu Leu Gly Lys Ala Glu Ala
              405                   410                   415
Asp Thr Asp Ser Asp Ala Gln Ala Leu Leu Leu Gly Asp Glu Ala Pro
         420                   425                   430
Ser Ser Ala Ile Ser Leu Arg Asp Val Asn Val Ser Ala
         435                   440                   445
```

<210> 4129
<211> 1749
<212> DNA
<213> Homo sapiens

<400> 4129

ctgggaccag ctctgctcct tgcaccccgc tccctgcctg gacacaggct cactcgctgc
60
cttcttctgg gggaaaccag cttcttgcca gccacagctg ctgcctccgc cactggccac
120
cgccctgtc ctgggagtcc cttggcccaa acacccacct gacttagtgg ctcctctgca
180
ggaaaggggg ctgcccctg cgttcctcca tccaatcatg agctggtgcc catcaccact
240
gagaatgcac cagagaatgt agtggaccag ggagcaggag cctcccgggg tggaaacaca
300
cggaaaagcc tcgaggacaa cggctccacc agggtcaccc cgagtgtcca gccccacctc
360
cagcccatca gaaacatgag tgtgagccgg accatggagg acagctgtga gctggacctg
420
gtgtacgtca cagagaggat catcgctgtc tccttcccca gcacagccaa tgaggagaac
480
ttccggagca acctccgtga ggtggcgcag atgctcaagt ccaaacatgg aggcaactac
540
ctgctgttca acctctctga gcggagacct gacatcacga gctccatgc caaggtactg
600
gaatttggct ggcccgacct ccacacccca gccctggaga agatctgcag catctgtaag
660
gccatggaca catggctcaa tgcagaccct cacaatgtcg ttgttctaca caacaaggga
720
aaccgaggca ggataggagt tgtcatcgcg gcttacatgc actacagcaa catttctgcc
780
agtgcggacc aggctctgga ccggtttgca atgaagcggt tctatgagga taagattgtg
840
cccattggcc agccatccca aagaaggtac gtgcattact tcagtggcct gctctccggc
900
tccatcaaaa tgaacaacaa gcccttgttt ctgcaccacg tgatcatgca cggcatcccc
960
aactttgagt ctaaaggagg atgtcggcca tttctccgca tctaccaggc catgcaacct
1020
gtgtacacat ctggcatcta caacatccca ggagacagcc agactagcgt ctgcatcacc
1080
atcgagccag gactgctctt gaagggagac atcttgctga agtgctacca caagaagttc
1140
cgaagcccag cccgagacgt catcttccgt gtgcagttcc acacctgtgc catccatgcc
1200
tggggggttg tctttgggaa ggaggacctt gatgatgctt tcaaagatga tcgatttcca
1260
gagtatggca aagtggagtt tgtattttct tatgggccag agaaaattca aggcatggag
1320
cacctggaga cgggccgag cgtgtctgtg gactataaca cctccgaccc cctcatccgc
1380
tgggactcct acgacaactt cagtgggcat cgagatgacg gcatggagga ggtggtggga
1440
cacacgcagg ggccactaga tgggagcctg tatgctaagg tgaagaagaa agactccctg
1500
cacggcagca ccgggggctgt taatgccaca cgtcctacac tgtcggccac ccccaaccac
1560

3317

```
gtggaacaca cgctttctgt gagcagcgac tcgggcaact ccacagcctc caccaagacc
1620
gacaagaccg acgagcctgt ccccgggggcc tccagtgccc atgctgcccg cactgtgacc
1680
atcctggttt ggcaattcat cgtccaggat gtctgtctcc cgctcagatg ctaacgcccc
1740
accattgac
1749
```

```
<210> 4130
<211> 523
<212> PRT
<213> Homo sapiens
```

```
<400> 4130
Leu Ser Gly Ser Ser Ala Gly Lys Gly Ala Ala Pro Cys Val Pro Pro
  1               5                  10                  15
Ser Asn His Glu Leu Val Pro Ile Thr Thr Glu Asn Ala Pro Glu Asn
              20                  25                  30
Val Val Asp Gln Gly Ala Gly Ala Ser Arg Gly Gly Asn Thr Arg Lys
          35                  40                  45
Ser Leu Glu Asp Asn Gly Ser Thr Arg Val Thr Pro Ser Val Gln Pro
      50                  55                  60
His Leu Gln Pro Ile Arg Asn Met Ser Val Ser Arg Thr Met Glu Asp
65                  70                  75                  80
Ser Cys Glu Leu Asp Leu Val Tyr Val Thr Glu Arg Ile Ile Ala Val
                  85                  90                  95
Ser Phe Pro Ser Thr Ala Asn Glu Glu Asn Phe Arg Ser Asn Leu Arg
              100                 105                 110
Glu Val Ala Gln Met Leu Lys Ser Lys His Gly Gly Asn Tyr Leu Leu
          115                 120                 125
Phe Asn Leu Ser Glu Arg Arg Pro Asp Ile Thr Lys Leu His Ala Lys
      130                 135                 140
Val Leu Glu Phe Gly Trp Pro Asp Leu His Thr Pro Ala Leu Glu Lys
145                 150                 155                 160
Ile Cys Ser Ile Cys Lys Ala Met Asp Thr Trp Leu Asn Ala Asp Pro
                  165                 170                 175
His Asn Val Val Val Leu His Asn Lys Gly Asn Arg Gly Arg Ile Gly
              180                 185                 190
Val Val Ile Ala Ala Tyr Met His Tyr Ser Asn Ile Ser Ala Ser Ala
          195                 200                 205
Asp Gln Ala Leu Asp Arg Phe Ala Met Lys Arg Phe Tyr Glu Asp Lys
      210                 215                 220
Ile Val Pro Ile Gly Gln Pro Ser Gln Arg Arg Tyr Val His Tyr Phe
225                 230                 235                 240
Ser Gly Leu Leu Ser Gly Ser Ile Lys Met Asn Asn Lys Pro Leu Phe
                  245                 250                 255
Leu His His Val Ile Met His Gly Ile Pro Asn Phe Glu Ser Lys Gly
              260                 265                 270
Gly Cys Arg Pro Phe Leu Arg Ile Tyr Gln Ala Met Gln Pro Val Tyr
          275                 280                 285
Thr Ser Gly Ile Tyr Asn Ile Pro Gly Asp Ser Gln Thr Ser Val Cys
      290                 295                 300
Ile Thr Ile Glu Pro Gly Leu Leu Leu Lys Gly Asp Ile Leu Leu Lys
```

```
       305                     310                     315                     320
Cys Tyr His Lys Lys Phe Arg Ser Pro Ala Arg Asp Val Ile Phe Arg
                    325                     330                     335
Val Gln Phe His Thr Cys Ala Ile His Ala Trp Gly Val Val Phe Gly
                    340                     345                     350
Lys Glu Asp Leu Asp Asp Ala Phe Lys Asp Asp Arg Phe Pro Glu Tyr
            355                     360                     365
Gly Lys Val Glu Phe Val Phe Ser Tyr Gly Pro Glu Lys Ile Gln Gly
            370                     375                     380
Met Glu His Leu Glu Asn Gly Pro Ser Val Ser Val Asp Tyr Asn Thr
385                     390                     395                     400
Ser Asp Pro Leu Ile Arg Trp Asp Ser Tyr Asp Asn Phe Ser Gly His
                    405                     410                     415
Arg Asp Asp Gly Met Glu Glu Val Val Gly His Thr Gln Gly Pro Leu
                    420                     425                     430
Asp Gly Ser Leu Tyr Ala Lys Val Lys Lys Lys Asp Ser Leu His Gly
            435                     440                     445
Ser Thr Gly Ala Val Asn Ala Thr Arg Pro Thr Leu Ser Ala Thr Pro
            450                     455                     460
Asn His Val Glu His Thr Leu Ser Val Ser Ser Asp Ser Gly Asn Ser
465                     470                     475                     480
Thr Ala Ser Thr Lys Thr Asp Lys Thr Asp Glu Pro Val Pro Gly Ala
                    485                     490                     495
Ser Ser Ala His Ala Ala Arg Thr Val Thr Ile Leu Val Trp Gln Phe
                    500                     505                     510
Ile Val Gln Asp Val Cys Leu Pro Leu Arg Cys
            515                     520
```

<210> 4131
<211> 608
<212> DNA
<213> Homo sapiens

<400> 4131

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cggccggcgc gggcgcggcg ggccgggcag gggcgagggg cgccgggtct tgccccagaa
60
gctgcgggca catccacgcc tgaaatgcgg cgctcagtcc tggtcaggaa cccaggccac
120
aaaggcctga gacccgttta tgaagagctc gactctgact ccgaggacct agaccccaat
180
cctgaagatc tggacccggt ttctgaagac ccagagcctg atcctgaaga cctcaacact
240
gtcccggaag acgtggaccc cagctatgaa gatctggagc ccgtctcgga ggatctggac
300
cccgacgccg aagctccggg ctcggaaccc caagatcccg accccatgtc ttcgagtttc
360
gacctcgatc cagatgtgat tggccccgta cccctgattc tcgatcctaa cagcgacacc
420
ctcagccccg gcgatccaaa agtggacccc nnatctcctc tggcctcact gcgagccccc
480
aggtcttggc caccagcccc gcggtgctcc ccgcccccgc cagcccgccc cggcccttct
540
cctgcccgga ttgcggcgaa gccttccgcc gcagctccgg gctgagccag catcgccgca
600
```

3319

cgcacagc
608

<210> 4132
<211> 194
<212> PRT
<213> Homo sapiens

<400> 4132
Arg Pro Ala Arg Ala Arg Arg Ala Gly Gln Gly Arg Gly Ala Pro Gly
1   5   10   15
Leu Ala Pro Glu Ala Ala Gly Thr Ser Thr Pro Glu Met Arg Arg Ser
                20   25   30
Val Leu Val Arg Asn Pro Gly His Lys Gly Leu Arg Pro Val Tyr Glu
                35   40   45
Glu Leu Asp Ser Asp Ser Glu Asp Leu Asp Pro Asn Pro Glu Asp Leu
            50   55   60
Asp Pro Val Ser Glu Asp Pro Glu Pro Asp Pro Glu Asp Leu Asn Thr
65   70   75   80
Val Pro Glu Asp Val Asp Pro Ser Tyr Glu Asp Leu Glu Pro Val Ser
                    85   90   95
Glu Asp Leu Asp Pro Asp Ala Glu Ala Pro Gly Ser Glu Pro Gln Asp
                100   105   110
Pro Asp Pro Met Ser Ser Ser Phe Asp Leu Asp Pro Asp Val Ile Gly
            115   120   125
Pro Val Pro Leu Ile Leu Asp Pro Asn Ser Asp Thr Leu Ser Pro Gly
        130   135   140
Asp Pro Lys Val Asp Pro Xaa Ser Pro Leu Ala Ser Leu Arg Ala Pro
145   150   155   160
Arg Ser Trp Pro Pro Ala Pro Arg Cys Ser Pro Pro Pro Pro Ala Arg
                165   170   175
Pro Gly Pro Ser Pro Ala Arg Ile Ala Ala Lys Pro Ser Ala Ala Ala
                180   185   190
Pro Gly

<210> 4133
<211> 1646
<212> DNA
<213> Homo sapiens

<400> 4133
ttttttttttt ttttttttttt ttttttttttt ttttttttttt ttaacgagtc tcaaattttt
60
attttgatgg caaaaatcac acagggaaga acaaaaatta tccatgacaa actaggagtg
120
gaaatgggct gggagacaca gaaatgggt gcccacagtt cctgggatcc ctcctggaat
180
cctgggtttc cctcctagga ccctgcaagg taccctacgt gcctcctgga acccccccc
240
accccggagg tcccaaggaa cccagtttga gaaccaaggc tttaggccaa ggacttcctt
300
gcacaagaag gtgcagatgt acagggatgg ttcagacagt ggcctcaacc tcaatggctt
360

```
catcctcctc ctccagcagg ctgtaggaag catggctctg gcaaggccgc tgcaggggt
420
gggccaacag tttcgccatg cagttgtgca actccagggc tggcccagcc agtgccacct
480
catacttgta gctggtaccc ttggtatcca ggctgcccat gaaggcaaac atatccttcc
540
aactcatctc ctcctccttc cctcagtgc cattgtggat gtaaacaacg tcaaagaaga
600
aatatgggca ctggaacatt ttcttcatgg gctccgtcaa ggagaactgg ggctggcaag
660
gtggacggct gtagacaagg atggtgcgga ccacatatgg cgggggaatc gtctgcacgt
720
tctctgtgac cggaagctca gttttctgct ggatgaggct gaaaagtcct tccagattga
780
aggtggaaca ggaggccgtc tccagatcat agaggcagct acagagctcg cggggggtcgg
840
aggtcaggcc agacagccag gccgtgtcat cgttcaccac caccagtgca aactcgtggc
900
ttttgtcgat cttgtgtttt gtccgcacga acatctcaat catcttctgg gagacattga
960
gggcgttggt tttggagccg ttgaacgact ccagctttgg cagtgacatt tcctctgaca
1020
ggtccaggca gataatcact ttctctggac agttgaccct tggtgtccga atttggacct
1080
caggggctgg cggggggcacc tgccaggact tagggccggc tcctgaagtg ttgaggctcc
1140
catcatcagc actggcggcc tcaccctcac cctcgctgcg gctgcccacg ctggcctgtg
1200
ccctactgc ccggtcctca gccccttcag gattggagcg agtgcggggc cgaggctctg
1260
ccgagtgctc ctcttcctcc tcctcctctt cagtggggct gctgggctct gccacttcca
1320
tggctcctgt gtggcttcgg ctcaccgtag cctgaacctc cttctaaatc agccgccgac
1380
tcactaggaa gccgccatct ttacagccgg aagttgtacg gcgcagcccc gacgcctcct
1440
gggaaatgta gttcagcggg ctgcagaaca agcagagaca gaaactggtt gaggctagaa
1500
agaacttgga aactgatagg ctgaaactgg gttgggggtg gggtttggag tgagagctgc
1560
ctggagctgg gtgcggcggg acctggaatg tgattggcta cactggagca aagtatgaaa
1620
tgtgattgga ttaaaaaaat tagtga
1646


<210> 4134
<211> 329
<212> PRT
<213> Homo sapiens

<400> 4134
Met Glu Val Ala Glu Pro Ser Ser Pro Thr Glu Glu Glu Glu Glu Glu
 1               5                  10                  15
Glu Glu His Ser Ala Glu Pro Arg Pro Arg Thr Arg Ser Asn Pro Glu
```

3321

```
                    20                      25                      30
Gly Ala Glu Asp Arg Ala Val Gly Ala Gln Ala Ser Val Gly Ser Arg
            35                      40                      45
Ser Glu Gly Glu Gly Glu Ala Ala Ser Ala Asp Asp Gly Ser Leu Asn
        50                      55                      60
Thr Ser Gly Ala Gly Pro Lys Ser Trp Gln Val Pro Pro Pro Ala Pro
65                      70                      75                      80
Glu Val Gln Ile Arg Thr Pro Arg Val Asn Cys Pro Glu Lys Val Ile
                85                      90                      95
Ile Cys Leu Asp Leu Ser Glu Glu Met Ser Leu Pro Lys Leu Glu Ser
                100                     105                     110
Phe Asn Gly Ser Lys Thr Asn Ala Leu Asn Val Ser Gln Lys Met Ile
        115                     120                     125
Glu Met Phe Val Arg Thr Lys His Lys Ile Asp Lys Ser His Glu Phe
        130                     135                     140
Ala Leu Val Val Val Asn Asp Asp Thr Ala Trp Leu Ser Gly Leu Thr
145                     150                     155                     160
Ser Asp Pro Arg Glu Leu Cys Ser Cys Leu Tyr Asp Leu Glu Thr Ala
                165                     170                     175
Ser Cys Ser Thr Phe Asn Leu Glu Gly Leu Phe Ser Leu Ile Gln Gln
                180                     185                     190
Lys Thr Glu Leu Pro Val Thr Glu Asn Val Gln Thr Ile Pro Pro Pro
                195                     200                     205
Tyr Val Val Arg Thr Ile Leu Val Tyr Ser Arg Pro Pro Cys Gln Pro
        210                     215                     220
Gln Phe Ser Leu Thr Glu Pro Met Lys Lys Met Phe Gln Cys Pro Tyr
225                     230                     235                     240
Phe Phe Phe Asp Val Val Tyr Ile His Asn Gly Thr Glu Glu Lys Glu
                245                     250                     255
Glu Glu Met Ser Trp Lys Asp Met Phe Ala Phe Met Gly Ser Leu Asp
            260                     265                     270
Thr Lys Gly Thr Ser Tyr Lys Tyr Glu Val Ala Leu Ala Gly Pro Ala
        275                     280                     285
Leu Glu Leu His Asn Cys Met Ala Lys Leu Leu Ala His Pro Leu Gln
        290                     295                     300
Arg Pro Cys Gln Ser His Ala Ser Tyr Ser Leu Leu Glu Glu Glu Asp
305                     310                     315                     320
Glu Ala Ile Glu Val Glu Ala Thr Val
                    325
```

```
<210> 4135
<211> 388
<212> DNA
<213> Homo sapiens

<400> 4135
acgcgtggtg gccctggaca tgtacctcac tcagcaacgc atctccgacc cagtgatgga
60
gggtctgcga tcagccgtac gctatgacaa aacctatttc gacaagatcg tggccagcct
120
tctgccattg ctggaaaaac tgaccacagg ccggattgca gagctgctat ctcccgacta
180
catggatctt gaggacccac gaccaatctt tgactggatg cagatcatcc gcaaacgggc
240
```
```

agtggtctat gtcggcctgg acgctttatc tgatacagag gtagctgcag cggtgggcaa
300
ctcgatgttc agcgacctgg tgtcagttgc gggtcacatc tataagtttg gcatcgatga
360
tggcttgccc ggggccaccg gcggcaag
388


<210> 4136
<211> 123
<212> PRT
<213> Homo sapiens


<400> 4136
Met Tyr Leu Thr Gln Gln Arg Ile Ser Asp Pro Val Met Glu Gly Leu
1               5               10              15
Arg Ser Ala Val Arg Tyr Asp Lys Thr Tyr Phe Asp Lys Ile Val Ala
            20              25              30
Ser Leu Leu Pro Leu Leu Glu Lys Leu Thr Thr Gly Arg Ile Ala Glu
        35              40              45
Leu Leu Ser Pro Asp Tyr Met Asp Leu Glu Asp Pro Arg Pro Ile Phe
    50              55              60
Asp Trp Met Gln Ile Ile Arg Lys Arg Ala Val Val Tyr Val Gly Leu
65              70              75              80
Asp Ala Leu Ser Asp Thr Glu Val Ala Ala Ala Val Gly Asn Ser Met
            85              90              95
Phe Ser Asp Leu Val Ser Val Ala Gly His Ile Tyr Lys Phe Gly Ile
            100             105             110
Asp Asp Gly Leu Pro Gly Ala Thr Gly Gly Lys
        115             120


<210> 4137
<211> 2255
<212> DNA
<213> Homo sapiens


<400> 4137
cggacctccc gcgcgccccg cacccgaccg gctcagccgc cggcagcgta acacgcccta
60
cgctcgcttg ctcgccggcc tcagggcagg caggcgggcg cgggagaccc cgccggggcc
120
gagacttggg gcgggcgacg aggaccaggt tacggcctcc tcgccatgtc ctcggcctgc
180
gacgcgggcg accactaccc cctgcacctc ctagtctgga aaaacgacta ccggcagctc
240
gagaaggagc tgcagggcca gaatgtggag gctgtggacc cacgaggtcg aacattattg
300
catcttgctg tttccttggg acatttggaa tctgctcgag tcttactccg acataaagca
360
gatgtgacaa aagaaaatcg ccagggatgg acagttttac atgaggctgt gagcactggc
420
gatcctgaga tggtgtacac agttctccaa catcgagact accacaacac atccatggcc
480
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540

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660
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960
gcaaaggttt acacagtaaa caatgtgaat gtgatcacca aaatacgcac agaacatctg
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2040
catgcagcag caacaactg cccttcttt atgcagaggt gcagaccag ggactcctgg
2100
gcccatccag ctgctccct ggggtggaga agggaccagg gattgcaggc cccatctcca
2160
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2255

<210> 4138
<211> 353
<212> PRT
<213> Homo sapiens

<400> 4138
Met Ser Ser Ala Cys Asp Ala Gly Asp His Tyr Pro Leu His Leu Leu
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Val Trp Lys Asn Asp Tyr Arg Gln Leu Glu Lys Glu Leu Gln Gly Gln
            20   25   30
Asn Val Glu Ala Val Asp Pro Arg Gly Arg Thr Leu Leu His Leu Ala
          35   40   45
Val Ser Leu Gly His Leu Glu Ser Ala Arg Val Leu Leu Arg His Lys
       50   55   60
Ala Asp Val Thr Lys Glu Asn Arg Gln Gly Trp Thr Val Leu His Glu
65   70   75   80
Ala Val Ser Thr Gly Asp Pro Glu Met Val Tyr Thr Val Leu Gln His
              85   90   95
Arg Asp Tyr His Asn Thr Ser Met Ala Leu Glu Gly Val Pro Glu Leu
         100   105   110
Leu Gln Lys Ile Leu Glu Ala Pro Asp Phe Tyr Val Gln Met Lys Trp
         115   120   125
Glu Phe Thr Ser Trp Val Pro Leu Val Ser Arg Ile Cys Pro Asn Asp
      130   135   140
Val Cys Arg Ile Trp Lys Ser Gly Ala Lys Leu Arg Val Asp Ile Thr
145   150   155   160
Leu Leu Gly Phe Glu Asn Met Ser Trp Ile Arg Gly Arg Arg Ser Phe
              165   170   175
Ile Phe Lys Gly Glu Asp Asn Trp Ala Glu Leu Met Glu Val Asn His
         180   185   190
Asp Asp Lys Val Val Thr Thr Glu Arg Phe Asp Leu Ser Gln Glu Met
         195   200   205
Glu Arg Leu Thr Leu Asp Leu Met Lys Pro Lys Ser Arg Glu Val Glu
      210   215   220
Arg Arg Leu Thr Ser Pro Val Ile Asn Thr Ser Leu Asp Thr Lys Asn
225   230   235   240
Ile Ala Phe Glu Arg Thr Lys Ser Gly Phe Trp Gly Trp Arg Thr Asp
              245   250   255
Lys Ala Glu Val Val Asn Gly Tyr Glu Ala Lys Val Tyr Thr Val Asn
         260   265   270
Asn Val Asn Val Ile Thr Lys Ile Arg Thr Glu His Leu Thr Glu Glu
      275   280   285
Glu Lys Lys Arg Tyr Lys Ala Asp Arg Asn Pro Leu Glu Ser Leu Leu
      290   295   300
Gly Thr Val Glu His Gln Phe Gly Ala Gln Gly Asp Leu Thr Thr Glu
305   310   315   320
Cys Ala Thr Ala Asn Asn Pro Thr Ala Ile Thr Pro Asp Glu Tyr Phe
              325   330   335
Asn Glu Glu Phe Asp Leu Xaa Arg Gln Gly His Trp Xaa Gly Arg Lys

                  340   345   350
Ser

<210> 4139
<211> 431
<212> DNA
<213> Homo sapiens

<400> 4139
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120
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180
cgacactgcc ccccacacag ccgggaagtc cacctttctc aagaagcacc tcgtgtcggc
240
cggatatgtc cacgtgaaca gggtatgacc aggcttttgc cgccccaaat ctattataaa
300
gttcccatct ccacctctca actggtttgg ggcggctttc ctccatcatt gcctccccgt
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ccaggacacg c
431

<210> 4140
<211> 50
<212> PRT
<213> Homo sapiens

<400> 4140
Thr Arg Val Pro Arg Pro Ser Gln Arg Thr Val Ser Arg Ser Gly Pro
  1   5   10   15
Leu Cys Leu Pro Glu Ser Arg Ala Leu Leu Ser Ala Ser Pro Glu Val
              20   25   30
Val Val Ala Val Gly Phe Pro Gly Gly Lys Cys Pro Val Pro Val Arg
          35   40   45
Val Pro
      50

<210> 4141
<211> 1182
<212> DNA
<213> Homo sapiens

<400> 4141
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cccacactcc cggccggcgc ctcggctttg tgcgaggaga tggtgtagcc ccctggccgc
120
cgaaggagga gccggacact tgtctcccgt ctccgagctg ctccccaccc ctggaggaga
180

                                     3326

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240
gccggcacca tgagtgaaca gagtatctgt caggcaagag ctgctgtgat ggtttatgat
300
gatgccaata agaagtgggt gccagctggt ggctcaactg gattcagcag agttcatatc
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420
gtcgtgataa actgtgccat tcctaaaggg ttgaagtaca atcaagctac acagaccttc
480
caccagtggc gagatgctag acaggtgtat ggtctcaact ttggcagcaa agaggatgcc
540
aatgtcttcg caagtgccat gatgcatgcc ttagaagtgt aaattcaca ggaaacaggg
600
ccaacattgc ctagacaaaa ctcacaacta cctgctcaag ttcaaaatgg cccatcccaa
660
gaagaattgg aaattcaaag aagacaacta caagaacagc aacggcaaaa ggagctggag
720
cgggaaaggc tggagcgaga aagaatggaa agagaaaggt tggagagaga gaggttagaa
780
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cgggaacggc aggaacgcct ggagcggcag gaacgcctgg agcggcagga acgcctggag
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960
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1020
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1080
tctgtgctgg agactcttc tgcttctgag ccaggcttgc aggcagcctc tcagccggcc
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1182
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<210> 4142
<211> 311
<212> PRT
<213> Homo sapiens
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```
<400> 4142
Met Ser Glu Gln Ser Ile Cys Gln Ala Arg Ala Ala Val Met Val Tyr
1               5                   10                  15
Asp Asp Ala Asn Lys Lys Trp Val Pro Ala Gly Gly Ser Thr Gly Phe
                20                  25                  30
Ser Arg Val His Ile Tyr His His Thr Gly Asn Asn Thr Phe Arg Val
            35                  40                  45
Val Gly Arg Lys Ile Gln Asp His Gln Val Val Ile Asn Cys Ala Ile
        50                  55                  60
Pro Lys Gly Leu Lys Tyr Asn Gln Ala Thr Gln Thr Phe His Gln Trp
65                  70                  75                  80
Arg Asp Ala Arg Gln Val Tyr Gly Leu Asn Phe Gly Ser Lys Glu Asp
                85                  90                  95
Ala Asn Val Phe Ala Ser Ala Met Met His Ala Leu Glu Val Leu Asn
```

```
                    100                    105                    110
Ser Gln Glu Thr Gly Pro Thr Leu Pro Arg Gln Asn Ser Gln Leu Pro
            115                    120                    125
Ala Gln Val Gln Asn Gly Pro Ser Gln Glu Glu Leu Glu Ile Gln Arg
        130                    135                    140
Arg Gln Leu Gln Glu Gln Gln Arg Gln Lys Glu Leu Glu Arg Glu Arg
145                    150                    155                    160
Leu Glu Arg Glu Arg Met Glu Arg Glu Arg Leu Glu Arg Glu Arg Leu
                165                    170                    175
Glu Arg Glu Arg Leu Glu Arg Glu Arg Leu Glu Gln Glu Gln Leu Glu
                180                    185                    190
Arg Glu Arg Gln Glu Arg Glu Arg Gln Glu Arg Leu Glu Arg Gln Glu
            195                    200                    205
Arg Leu Glu Arg Gln Glu Arg Leu Glu Arg Gln Glu Arg Leu Asp Arg
        210                    215                    220
Glu Arg Glu Arg Gln Glu Arg Glu Arg Leu Glu Arg Leu Glu Arg Glu
225                    230                    235                    240
Arg Gln Glu Arg Glu Arg Gln Glu Gln Leu Glu Arg Glu Gln Leu Glu
                245                    250                    255
Trp Glu Arg Glu Arg Arg Ile Ser Ser Ala Ala Ala Pro Ala Ser Val
                260                    265                    270
Glu Thr Pro Leu Asn Ser Val Leu Gly Asp Ser Ser Ala Ser Glu Pro
            275                    280                    285
Gly Leu Gln Ala Ala Ser Gln Pro Ala Glu Thr Pro Ser Gln Gln Gly
        290                    295                    300
Ile Val Leu Gly Pro Leu Ala
305                    310
```

<210> 4143
<211> 1773
<212> DNA
<213> Homo sapiens

<400> 4143

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cgttagtaga cactgagcag agaagcttga agaacgggga tcctctcctg tgggcagggg
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240
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300
caggccggga agaaattcct ttcctttggg aagaaccacc aacgctcagt ccaagctcac
360
acggttatct agtcggcaat gccttccctg ccctgcagcc aatacccccc actgtgctgg
420
gccttctgca aatactcctg gggttgaccc aaacccagtt tccagataaa agataaaaag
480
aaaaaaaaaa aggccacata tcccagttct cagagaaatc ctggattact aaacatcccc
540
tgcctgtggc acctggaatg ggtgacttgt caaaatctcc ctcaagacgt tttgtgcgtt
600
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tgccgtggga gggaatggtg gggagtcagg gtggctgggg ggcactaggc cacttcacca
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720
tgccctggca gtgcgcaccc tgtgggcacc aagcagggag tgaagaccct cagaacacag
780
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840
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1260
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1680
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1773
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```
<210> 4144
<211> 231
<212> PRT
<213> Homo sapiens
```

```
<400> 4144
Met Ala Ser Ala Val Phe Glu Gly Thr Ser Leu Val Asn Met Phe Val
1               5                   10                  15
Arg Gly Cys Trp Val Asn Gly Ile Arg Arg Leu Ile Val Ser Arg Arg
            20                  25                  30
Gly Asp Glu Glu Glu Phe Phe Glu Ile Arg Thr Glu Trp Ser Asp Arg
        35                  40                  45
Ser Val Leu Tyr Leu His Arg Ser Leu Ala Asp Leu Gly Arg Leu Trp
```

3329

```
        50                      55                      60
Gln Arg Leu Arg Asp Ala Phe Pro Glu Asp Arg Ser Glu Leu Ala Gln
65                      70                      75                      80
Gly Pro Leu Arg Gln Gly Leu Val Ala Ile Lys Glu Ala His Asp Ile
                        85                      90                      95
Glu Thr Arg Leu Asn Glu Val Glu Lys Leu Leu Lys Thr Ile Ile Ser
                        100                     105                     110
Met Pro Cys Lys Tyr Ser Arg Ser Glu Val Val Leu Thr Phe Phe Glu
                115                     120                     125
Arg Ser Pro Leu Asp Gln Val Leu Lys Asn Asp Asn Val His Lys Ile
        130                     135                     140
Gln Pro Ser Phe Gln Ser Pro Val Lys Ile Ser Glu Ile Met Arg Ser
145                     150                     155                     160
Asn Gly Phe Cys Leu Ala Asn Thr Glu Thr Ile Val Ile Asp His Ser
                165                     170                     175
Ile Pro Asn Gly Arg Asp Gln Gln Leu Gly Val Asp Pro Thr Glu His
                180                     185                     190
Leu Phe Glu Asn Gly Ser Glu Phe Pro Ser Glu Leu Glu Asp Gly Asp
                195                     200                     205
Asp Pro Ala Ala Tyr Val Thr Asn Leu Ser Tyr Tyr His Leu Val Pro
        210                     215                     220
Phe Glu Thr Asp Ile Trp Asp
225                     230
```

```
<210> 4145
<211> 400
<212> DNA
<213> Homo sapiens
```

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<400> 4145
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120
cctgtacccc tcacagggga ggaactggac ttgcggctca ttcggacaaa ggggggtgtg
180
gacgcagccc tggaatatgc caagacctgg agccgctatg ccaaggaact gcttgcctgg
240
actgaaaaga gagccagcta tgagctggag tttgctaaga gcaccatgaa gatcgctgaa
300
gctggcaagg tgtccattca acagcagagc cacatgcctc tgcagtacat ctacaccctg
360
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400
```

```
<210> 4146
<211> 133
<212> PRT
<213> Homo sapiens
```

```
<400> 4146
Xaa Thr Leu Glu Met Leu Ala Gly Asp Pro Leu Leu Ser Glu Asp Pro
1               5                       10                      15
Glu Pro Asp Lys Thr Pro Ala Ala Thr Val Thr Asn Glu Ala Ser Cys
```

```
                    20                      25                      30
Trp Ser Gly Pro Ser Pro Glu Gly Pro Val Pro Leu Thr Gly Glu Glu
            35                      40                      45
Leu Asp Leu Arg Leu Ile Arg Thr Lys Gly Gly Val Asp Ala Ala Leu
        50                      55                      60
Glu Tyr Ala Lys Thr Trp Ser Arg Tyr Ala Lys Glu Leu Leu Ala Trp
65                      70                      75                      80
Thr Glu Lys Arg Ala Ser Tyr Glu Leu Glu Phe Ala Lys Ser Thr Met
                    85                      90                      95
Lys Ile Ala Glu Ala Gly Lys Val Ser Ile Gln Gln Gln Ser His Met
                100                     105                     110
Pro Leu Gln Tyr Ile Tyr Thr Leu Phe Leu Glu His Asp Leu Ser Leu
        115                     120                     125
Gly Thr Leu Ala Met
        130
```

<210> 4147
<211> 4892
<212> DNA
<213> Homo sapiens

<400> 4147

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nnaaatgtag agaagcagcc gataaaatag cattgcctga agaagtttgg aggctgagag
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cagcagtaga ctggccaact gcagagcaag ttgtttctcc agccgtgcgg tgcagcctca
120
tgcccccaac ccagcttagc cactgtaaga agacgttcac tgtacagacg accaaacttg
180
ccgtggaaga gacagttgtg agattccctt gcaaatttac atacgagaat ggcttgtgaa
240
atcatgcctc tgcaaagttc acaggaagat gaaagacctc tgtcaccttt ctatttgagt
300
gctcatgtac cccaagtcag caatgtgtct gcaaccggag aactcttaga aagaaccatc
360
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420
gactcagaat ctggaacact atcagcatct tctgccacat ctgccagaca gcgccgccgc
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cagtccaagg agcaggatga agttcgacat gggagagaca agggacttat caacaaagaa
540
aatactcctt ctgggttcaa ccaccttgat gattgtattt tgaatactca ggaagtcgaa
600
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660
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780
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840
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gaccaggagg agagctttgt ctccgaagtg ccccagtcgg acctgactgc attgtgtgat
960
```

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gaaaagaact gggaagagcc tatccctgct ttctcctcct ggcagcggga gaacagtgac
1020
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1080
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1140
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1380
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1440
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2220
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2340
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2520
aggcattttg taattggaaa gtcaagactg cagtatgtgc acatgcgcac gcgcatgcac
2580
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3332

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gcacacacac acacagtagt ggagctttcc taacactagc agagattaat cactacatta
2640
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2700
accattctct gtctaactgt gataaaaaca agctcaggac tttattctat agagcaaact
2760
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3420
aaaaaagaag tcatgctgtg tggccaatta taattttttt caaagacttt gtcacaaaac
3480
tgtctatatt agacattttg gagggaccag gaaatgtaag acaccaaatc ctccatctct
3540
tcagtgtgcc tgatgtcacc tcatgatttg ctgttacttt tttaactcct gcgccaagga
3600
cagtgggttc tgtgtccacc tttgtgcttt gcgaggccga gcccaggcat ctgctcgcct
3660
gccacggctg accagagaag gtgcttcagg agctctgcct tagacgacgt gttacagtat
3720
gaacacacag cagaggcacc ctcgtatgtt ttgaaagttg ccttctgaaa gggcacagtt
3780
ttaaggaaaa gaaaaagaat gtaaaactat actgacccgt tttcagtttt aaagggtcgt
3840
gagaaactgg ctggtccaat gggatttaca gcaacatttt ccattgctga agtgaggtag
3900
cagctctctt ctgtcagctg aatgttaagg atggggaaaa agaatgcctt taagtttgct
3960
cttaatcgta tggaagcttg agctatgtgt tggaagtgcc ctggtttttaa tccatacaca
4020
aagacggtac ataatcctac aggtttaaat gtacataaaa atatagtttg gaattctttg
4080
ctctactgtt tacattgcag attgctataa tttcaaggag tgagattata aataaaatga
4140
tgcactttag gatgtttcct atttttgaaa tctgaacatg aatcattcac atgaccaaaa
4200
```

3333

```
attgtgtttt tttaaaaata catgtctagt ctgtccttta atagctctct taaataagct
4260
atgatattaa tcagatcatt accagttagc ttttaaagca catttgttta agactatgtt
4320
tttggaaaaa tacgctacag aatttttttt taagctacaa ataaatgaga tgctactaat
4380
tgttttggaa tctgttgttt ctgccaaagg taaattaact aaagatttat tcaggaatcc
4440
ccattgaat ttgtatgatt caataaaaga aaacaccaag taagttatat aaaataaatt
4500
gtgtatgaga tgttgtgttt tcctttgtaa tttccactaa ctaactaact aacttatatt
4560
cttcatggaa tggagcccag aagaaatgag aggaagccct tttcacacta gatcttattt
4620
gaagaaatgt ttgttagtca gtcagtcagt ggtttctggc tctgccgagg gagatgtgtt
4680
ccccagcaac catttctgca gcccagaatc tcaaggcact agaggcggtg tcttaattaa
4740
ttggcttcac aaagacaaaa tgctctggac tgggattttt cctttgctgt gttgggaata
4800
tgtgtttatt aattagcaca tgccaacaaa ataaatgtca agagttattt cataagtgta
4860
agtaaactta agaatcnaag agtgccgact ta
4892
```

<210> 4148
<211> 697
<212> PRT
<213> Homo sapiens

<400> 4148

```
Met Ala Cys Glu Ile Met Pro Leu Gln Ser Ser Gln Glu Asp Glu Arg
1               5                  10                  15
Pro Leu Ser Pro Phe Tyr Leu Ser Ala His Val Pro Gln Val Ser Asn
            20                  25                  30
Val Ser Ala Thr Gly Glu Leu Leu Glu Arg Thr Ile Arg Ser Ala Val
        35                  40                  45
Glu Gln His Leu Phe Asp Val Asn Asn Ser Gly Gly Gln Ser Ser Glu
    50                  55                  60
Asp Ser Glu Ser Gly Thr Leu Ser Ala Ser Ser Ala Thr Ser Ala Arg
65                  70                  75                  80
Gln Arg Arg Arg Gln Ser Lys Glu Gln Asp Glu Val Arg His Gly Arg
                85                  90                  95
Asp Lys Gly Leu Ile Asn Lys Glu Asn Thr Pro Ser Gly Phe Asn His
            100                 105                 110
Leu Asp Asp Cys Ile Leu Asn Thr Gln Glu Val Glu Lys Val His Lys
        115                 120                 125
Asn Thr Phe Gly Cys Ala Gly Glu Arg Ser Lys Pro Lys Arg Gln Lys
    130                 135                 140
Ser Ser Thr Lys Leu Ser Glu Leu His Asp Asn Gln Asp Gly Leu Val
145                 150                 155                 160
Asn Met Glu Ser Leu Asn Ser Thr Arg Ser His Glu Arg Thr Gly Pro
                165                 170                 175
Asp Asp Phe Glu Trp Met Ser Asp Glu Arg Lys Gly Asn Glu Lys Asp
```

3334

```
                    180                 185                 190
Gly Gly His Thr Gln His Phe Glu Ser Pro Thr Met Lys Ile Gln Glu
        195                 200                 205
His Pro Ser Leu Ser Asp Thr Lys Gln Gln Arg Asn Gln Asp Ala Gly
    210                 215                 220
Asp Gln Glu Glu Ser Phe Val Ser Glu Val Pro Gln Ser Asp Leu Thr
225                 230                 235                 240
Ala Leu Cys Asp Glu Lys Asn Trp Glu Glu Pro Ile Pro Ala Phe Ser
                245                 250                 255
Ser Trp Gln Arg Glu Asn Ser Asp Ser Asp Glu Ala His Leu Ser Pro
                260                 265                 270
Gln Ala Gly Arg Leu Ile Arg Gln Leu Leu Asp Glu Asp Ser Asp Pro
            275                 280                 285
Met Leu Ser Pro Arg Phe Tyr Ala Tyr Gly Gln Ser Arg Gln Tyr Leu
        290                 295                 300
Asp Asp Thr Glu Val Pro Pro Ser Pro Pro Asn Ser His Ser Phe Met
305                 310                 315                 320
Arg Arg Arg Ser Ser Ser Leu Gly Ser Tyr Asp Asp Glu Gln Glu Asp
                325                 330                 335
Leu Thr Pro Ala Gln Leu Thr Arg Arg Ile Gln Ser Leu Lys Lys Lys
            340                 345                 350
Ile Arg Lys Phe Glu Asp Arg Phe Glu Glu Glu Lys Lys Tyr Arg Pro
        355                 360                 365
Ser His Ser Asp Lys Ala Ala Asn Pro Glu Val Leu Lys Trp Thr Asn
    370                 375                 380
Asp Leu Ala Lys Phe Arg Arg Gln Leu Lys Glu Ser Lys Leu Lys Ile
385                 390                 395                 400
Ser Glu Glu Asp Leu Thr Pro Arg Met Arg Gln Arg Ser Asn Thr Leu
                405                 410                 415
Pro Lys Ser Phe Gly Ser Gln Leu Glu Lys Glu Asp Glu Lys Lys Gln
            420                 425                 430
Glu Leu Val Asp Lys Ala Ile Lys Pro Ser Val Glu Ala Thr Leu Glu
        435                 440                 445
Ser Ile Gln Arg Lys Leu Gln Glu Lys Arg Ala Glu Ser Ser Arg Pro
    450                 455                 460
Glu Asp Ile Lys Asp Met Thr Lys Asp Gln Ile Ala Asn Glu Lys Val
465                 470                 475                 480
Ala Leu Gln Lys Ala Leu Leu Tyr Tyr Glu Ser Ile His Gly Arg Pro
            485                 490                 495
Val Thr Lys Asn Glu Arg Gln Val Met Lys Pro Leu Tyr Asp Arg Tyr
        500                 505                 510
Arg Leu Val Lys Gln Ile Leu Ser Arg Ala Asn Thr Ile Pro Ile Ile
    515                 520                 525
Gly Ser Pro Ser Ser Lys Arg Arg Ser Pro Leu Leu Gln Pro Ile Ile
    530                 535                 540
Glu Gly Glu Thr Ala Ser Phe Phe Lys Glu Ile Lys Glu Glu Glu Glu
545                 550                 555                 560
Gly Ser Glu Asp Asp Ser Asn Val Lys Pro Asp Phe Met Val Thr Leu
                565                 570                 575
Lys Thr Asp Phe Ser Ala Arg Cys Phe Leu Asp Gln Phe Glu Asp Asp
            580                 585                 590
Ala Asp Gly Phe Ile Ser Pro Met Asp Asp Lys Ile Pro Ser Lys Cys
        595                 600                 605
Ser Gln Asp Thr Gly Leu Ser Asn Leu His Ala Ala Ser Ile Pro Glu
```

```
      610              615              620
Leu Leu Glu His Leu Gln Glu Met Arg Glu Glu Lys Lys Arg Ile Arg
625              630              635              640
Lys Lys Leu Arg Asp Phe Glu Asp Asn Phe Phe Arg Gln Asn Gly Arg
             645              650              655
Asn Val Gln Lys Glu Asp Arg Thr Pro Met Ala Glu Glu Tyr Ser Glu
             660              665              670
Tyr Lys His Ile Lys Ala Lys Leu Arg Leu Leu Glu Val Leu Ile Ser
         675              680              685
Lys Arg Asp Thr Asp Ser Lys Ser Met
    690              695
```

<210> 4149
<211> 1396
<212> DNA
<213> Homo sapiens

<400> 4149
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nacaggggaa ataccgcggc gccggtagtt gctgtggttt ccgttctgag ctcgcagctt
60
aggagctgaa gatcgcggac ttagcgttgc cgcgtccgag tccggccatc agtggctgca
120
gatccggagg ccaggagctc aaccaccctt cttcggaaca gggccggcct gctgctgtgc
180
cctcgacgct cggtgcctgt atctactccg gggcctaggt cggctccggg ggcggcttag
240
gagaaggccg ccggcgagat gttcaaaaac acgttccaga gcggcttcct ctccatcctc
300
tacagcatcg gcagcaagcc tctgcaaatc tgggacaaaa aggtacggaa tggccacatc
360
aaaagaatca ctgataatga catccagtcc ctggtgctag agattgaagg gacaaatgta
420
agcaccacat atatcacatg ccctgcagac cccaagaaga cgctgggaat taaacttcct
480
ttccttgtca tgattatcaa aaacctgaag aagtatttta ccttcgaagt gcaggtacta
540
gatgacaaga atgtgcgtcg tcgctttcgg gcaagtaact accagagcac cacccgggtc
600
aaacccttca tctgcaccat gcccatgcgg ctggatgacg gctggaacca gattcagttc
660
aacttgctag acttcacacg gcgagcatac ggcaccaatt acatcgagac cctcagagtg
720
cagatccatg caaattgtcg catccgacgg gtttacttct cagacagact ctactcagaa
780
gatgagctgc cggcagagtt caaactgtat ctcccagttc agaacaaggc aaagcaataa
840
ctggaattgt gactcgaggg atagacccct ggatgtgact cttcttttta aaaggaaact
900
atgtggagga cgatgcaaaa acatatttat cttagtttgc tctgctgtag ttctgttatt
960
tatacttggt gttgcttgtc atggacaccg gtgaacatgc cgtaactctg tgactgcatt
1020
gtaagtgcag tggggtaag cagtcctgtg agtggcgcat gaacgctgga gcttattccg
1080
```

ccgcctgccc cagtgtgggg ggagatacct ttaccatgaa cttacagaat taaagatggc
1140
ccataaggaa ttccagacca atatttcttc ctgcggttta ttctatgttt tatatattat
1200
ctaaatatat gtatatgctg tgtcatactc ataatctgga aatgaataaa gtgatatatt
1260
cctggtttgt aaaaaaaaaa aaaaaatttg ctataaaatg agaagtctca ctgatagagg
1320
ttctttattg ctcatttttt aaaaaatgga ctcttgaaat ctgttaaaat aaaattgtac
1380
atttggaaaa aaaaaa
1396

<210> 4150
<211> 193
<212> PRT
<213> Homo sapiens

<400> 4150
Met Phe Lys Asn Thr Phe Gln Ser Gly Phe Leu Ser Ile Leu Tyr Ser
 1   5   10   15
Ile Gly Ser Lys Pro Leu Gln Ile Trp Asp Lys Lys Val Arg Asn Gly
            20   25   30
His Ile Lys Arg Ile Thr Asp Asn Asp Ile Gln Ser Leu Val Leu Glu
            35   40   45
Ile Glu Gly Thr Asn Val Ser Thr Thr Tyr Ile Thr Cys Pro Ala Asp
        50   55   60
Pro Lys Lys Thr Leu Gly Ile Lys Leu Pro Phe Leu Val Met Ile Ile
65   70   75   80
Lys Asn Leu Lys Lys Tyr Phe Thr Phe Glu Val Gln Val Leu Asp Asp
                85   90   95
Lys Asn Val Arg Arg Arg Phe Arg Ala Ser Asn Tyr Gln Ser Thr Thr
            100   105   110
Arg Val Lys Pro Phe Ile Cys Thr Met Pro Met Arg Leu Asp Asp Gly
            115   120   125
Trp Asn Gln Ile Gln Phe Asn Leu Leu Asp Phe Thr Arg Arg Ala Tyr
        130   135   140
Gly Thr Asn Tyr Ile Glu Thr Leu Arg Val Gln Ile His Ala Asn Cys
145   150   155   160
Arg Ile Arg Arg Val Tyr Phe Ser Asp Arg Leu Tyr Ser Glu Asp Glu
                165   170   175
Leu Pro Ala Glu Phe Lys Leu Tyr Leu Pro Val Gln Asn Lys Ala Lys
                180   185   190
Gln

<210> 4151
<211> 1372
<212> DNA
<213> Homo sapiens

<400> 4151
ttatattttt ttttttttt ttttttttt cacggacaga cagggtcgtt tgtcacagca
60

```
gagaagcacc tcacggctcc tacccgcact catcgcggac agtgcctgca gcgggagcgg
120
cgcgagcacc ctccccagat gaaaacacca gcaccaggag gtgggccgta gcccaggctg
180
agggaggagg ctgggggctg gggctcaggg cccccccgg gccacagcgc caccctgagt
240
ggccctgaaa atagtgcaca gtgctgggta ctgccccggc tggaggcacc tagttgttga
300
gcattccggc acaggccac ccgctggccc ttccttggtg tggcacgaga ccacgggcac
360
ttgcaggagc tccctgcatg ctgttttgtg ctttggtctc agggagcacc ctcctacctc
420
ggggtcccag agtgggcagc cgggcaggtg tgaacagtgt dacaagggta ccgtggggca
480
cctggtagtg ccaacccaga ggggcagccg gtgctcctgg tggtgtggca gcaacagtta
540
caaactcacc ccaagtccaa accccagaaa tcctgtttct ctggccctcc gggtccagaa
600
tgccctgcac tgcctcctgg cctcaggggc tgctgcggtg gtgggaaggc tgcccagcag
660
tgaggaaggc gagtgcaggg gctgcggccg cggtcagaga aggagagaca ccagcagagg
720
acgcgaagct ggaccggcca ggttcagagc ccgcctcggt tgctcccaat cagaatctgc
780
tttgtgctcc acggcctcca agcactttca tgagcgttct gctcctacgt ggccaggtcc
840
taccttccct gacggctctg gccaggccag ctcggtttcc ctctaaccca tgaggcctgg
900
gggggctgtg acagaggctg gaaccgcggc cagagcccag gggcaggccc gcctggtcac
960
agcaggatga ggctggggtg gcgcagctgc cggtacacct gtagcagcct ctgggcggtg
1020
gcacaggagc tggcctcatc ctccgtgcag agccggtcgc gcaggtctg cacctcccgc
1080
agcagtgtct cgtggttggc gtggatctgg cggaggtact gcacacggag atcaggagcg
1140
ctggagccct gggcggcctg ctctgtcacc atcgtctgca tgcgcccgac aacggcatgg
1200
tgcgccctgc aaatgtcggc cagagaggag ctttccactt gaatctccac ggcctggatg
1260
gcgctgctgg cacaggtcg gtcatggcca cctctcggac gatgaggtga acgttggcgc
1320
catcaggggc cactccctgg atggaagata gtgctcgggc cctcacgacg tc
1372
```

```
<210> 4152
<211> 97
<212> PRT
<213> Homo sapiens

<400> 4152
Met Pro Cys Thr Ala Ser Trp Pro Gln Gly Leu Leu Arg Trp Trp Glu
1               5                   10                  15
Gly Cys Pro Ala Val Arg Lys Ala Ser Ala Gly Ala Ala Ala Ala Val
```

```
                 20                      25                      30
Arg Glu Gly Glu Thr Pro Ala Glu Asp Ala Lys Leu Asp Arg Pro Gly
             35                      40                      45
Ser Glu Pro Ala Ser Val Ala Pro Asn Gln Asn Leu Leu Cys Ala Pro
         50                      55                      60
Arg Pro Pro Ser Thr Phe Met Ser Val Leu Leu Leu Arg Gly Gln Val
65                      70                      75                      80
Leu Pro Ser Leu Thr Ala Leu Ala Arg Pro Ala Arg Phe Pro Ser Asn
                 85                      90                      95
Pro
```

```
<210> 4153
<211> 395
<212> DNA
<213> Homo sapiens
```

```
<400> 4153
tgatcagacc tgagtgaaca gaaggaaaga gcattttacc gatggtatca actgcttggg
60
aaatcctccg attggcaaga aaggctttga tttcctcttt tatcacactg ctgtccctcc
120
tcattaattc ttccacttta tcatttacat ctaggtcctc ttctgaggct tcaaaactgt
180
atgacctctg acccatgctg tttgcatgga agcgagttgg tgacatcttt ccattggatg
240
tagataatcg ctcattattc tccctcccat tttgattggt agtgcaaggc tgtggggaag
300
tatcataact gttgctaggt gacggggaca ttcccgaatg ctgcgtctgt gtggaagctg
360
tagctgtaga ggaagatgct gggacattgt tagtn
395
```

```
<210> 4154
<211> 110
<212> PRT
<213> Homo sapiens
```

```
<400> 4154
Met Ser Pro Ser Pro Ser Asn Ser Tyr Asp Thr Ser Pro Gln Pro Cys
1               5                      10                      15
Thr Thr Asn Gln Asn Gly Arg Glu Asn Asn Glu Arg Leu Ser Thr Ser
             20                      25                      30
Asn Gly Lys Met Ser Pro Thr Arg Phe His Ala Asn Ser Met Gly Gln
         35                      40                      45
Arg Ser Tyr Ser Phe Glu Ala Ser Glu Glu Asp Leu Asp Val Asn Asp
         50                      55                      60
Lys Val Glu Glu Leu Met Arg Arg Asp Ser Ser Val Ile Lys Glu Glu
65                      70                      75                      80
Ile Lys Ala Phe Leu Ala Asn Arg Arg Ile Ser Gln Ala Val Asp Thr
                 85                      90                      95
Ile Gly Lys Met Leu Phe Pro Ser Val His Ser Gly Leu Ile
                 100                     105                     110
```

3339

<210> 4155
<211> 1191
<212> DNA
<213> Homo sapiens

<400> 4155
aggcccgagc cgcagggaaa gcggcgcggg ccgggcgggg cgcggcgccc agagctcagg
60
gggagacaaa ggggaccggt tcctctctag gcgccaagat gtggatacag gttcgcacca
120
ttgatggctc caagacgtgc accattgagg acgtgtctcg caaagccacg attgaggagc
180
tgcgcgagcg ggtgtgggcg ctgttcgacg tgcggcccga atgccagcgc ctcttctacc
240
ggggcaagca gttggaaaat ggatatacct tatttgatta tgatgttgga ctgaatgata
300
taattcagct gctagttcgc ccagaccctg atcatcttcc tggcacatct acacagattg
360
aggctaaacc ctgttctaat agtccaccta aagtaaagaa agctccgagg gtaggacctt
420
ccaatcagcc atctacatca gctcgtgccc gtcttattga tcctggcttt ggaatatata
480
agataccccag aaagcggtac tctagaaatg aatgtcaagg atcttagacc acgagctaga
540
accattttga aatggaatga actaaatgtt ggtgatgtgg taatggttaa ttataatgta
600
gaaagtcctg acaaagagg attctggttt gatgcagaaa ttaccacatt gaagacaatc
660
tcaaggacca aaaagaact tcgtgtgaaa attttcctgg ggggttctga aggaacatta
720
aatgactgca agataatatc tgtagatgaa atcttcaaga ttgagagacc tggagcccat
780
cccctttcat ttgcagatgg aaagtttta aggcgaaatg accctgaatg tgacctgtgt
840
ggtggagacc cagaaaagaa atgtcattct tgctcctgtc gtgtatgtgg tgggaaacat
900
gaacccaaca tgcagcttct gtgtgatgaa tgtaatgtgg cttatcatat ttactgtctg
960
aatccaccctt tggataaagt cccagaagag gaatactggt attgtccttc ttgtaaaact
1020
gattccagtg aagttgtaaa ggctggtgaa agactcaaga tgagtaaaaa gaaagcaaag
1080
atgccgtcag ctagtactga aagccgaaga gactgaggca ggggagggga ggggagggaa
1140
tgaggcagct ctaggatcta tactgtagct aataaaatgt aaaaacacct g
1191

<210> 4156
<211> 233
<212> PRT
<213> Homo sapiens

<400> 4156
Asp Leu Pro Ile Ser His Leu His Gln Leu Val Pro Val Leu Leu Ile

3340

```
1                    5                        10                          15
Leu Ala Leu Glu Tyr Ile Arg Tyr Pro Glu Ser Gly Thr Leu Glu Met
            20                      25                      30
Asn Val Lys Asp Leu Arg Pro Arg Ala Arg Thr Ile Leu Lys Trp Asn
            35                      40                      45
Glu Leu Asn Val Gly Asp Val Val Met Val Asn Tyr Asn Val Glu Ser
            50                      55                      60
Pro Gly Gln Arg Gly Phe Trp Phe Asp Ala Glu Ile Thr Thr Leu Lys
65                      70                      75                      80
Thr Ile Ser Arg Thr Lys Lys Glu Leu Arg Val Lys Ile Phe Leu Gly
                    85                      90                      95
Gly Ser Glu Gly Thr Leu Asn Asp Cys Lys Ile Ile Ser Val Asp Glu
                    100                     105                     110
Ile Phe Lys Ile Glu Arg Pro Gly Ala His Pro Leu Ser Phe Ala Asp
            115                     120                     125
Gly Lys Phe Leu Arg Arg Asn Asp Pro Glu Cys Asp Leu Cys Gly Gly
    130                     135                     140
Asp Pro Glu Lys Lys Cys His Ser Cys Ser Cys Arg Val Cys Gly Gly
145                     150                     155                     160
Lys His Glu Pro Asn Met Gln Leu Leu Cys Asp Glu Cys Asn Val Ala
                    165                     170                     175
Tyr His Ile Tyr Cys Leu Asn Pro Pro Leu Asp Lys Val Pro Glu Glu
                    180                     185                     190
Glu Tyr Trp Tyr Cys Pro Ser Cys Lys Thr Asp Ser Ser Glu Val Val
                    195                     200                     205
Lys Ala Gly Glu Arg Leu Lys Met Ser Lys Lys Lys Ala Lys Met Pro
    210                     215                     220
Ser Ala Ser Thr Glu Ser Arg Arg Asp
225                     230
```

<210> 4157
<211> 3460
<212> DNA
<213> Homo sapiens

<400> 4157
cattagtatc cgcagagatt cgaggacatg ccgttgacct tgttacagga ctggtgtcgg
60
ggggaacacc tgaacacccg gaggtgcatg ctcatcctgg gatccccga ggactgtggc
120
gaggatgagt ttgaggagac actccaggag gcttgcaggc acctgggcag atacagggtg
180
attggcagga tgtttaggag ggaggagaac gcccaggcga ttctactgga gctggcacaa
240
gatatcgact atgctttgct cccaagggaa ataccaggaa agggggggcc ctgggaagtg
300
attgtaaaac cccgtaactc agatggggaa tttctcaaca gactgaaccg cttcttagag
360
gaggagaggc ggaccgtgtc agatatgaac cgagtcctcg ggtcggacac caattgttcg
420
gctccaagag tgactatatc accagagttc tggacctggg cccagactct gggggcagca
480
gtgcagcctc tgctagaaca aatgttgtac cgagaactaa gagtgttttc tgggaacacc
540

3341

```
atatccatcc caggtgcact ggcctttgat gcctggcttg agcacaccac tgagatgcta
600
cagatgtggc aggtgcccga gggggaaaag aggcggaggc tgatggaatg cttacggggc
660
cctgctctcc aggtggtcag tgggctccgg gccagcaatg cttccataac tgtggaggag
720
tgcctggctg ccttgcagca ggtgttcgga cctgtggaga gccataaaat tgcccaggtg
780
aagttgtgta aagcctatca ggaggcagga gagaaagtat ctagctttgt gttacgtttg
840
gaacccctgc tccaaagagc tgtagaaaac aatgtggtat cacgtagaaa cgtgaatcag
900
actcgcctga aacgagtctt aagtggggcc acccttcctg acaaactccg agataagctt
960
aagctgatga aacagcgaag gaagcctcct ggtttcctgg ccctggtgaa gctcctgcgt
1020
gaggaggagg aatgggaggc cactttaggt ccagataggg agagtctgga ggggctggaa
1080
gtagccccaa ggccacctgc caggatcact ggggttgggg cagtacctct ccctgcctct
1140
ggcaacagtt ttgatgcgag gccttcccag ggctaccggc gccggagggg cagaggccaa
1200
caccgaaggg gtggtgtggc aagggctggc tctcgaggct caagaaaacg gaaacgccac
1260
acattctgct atagctgtgg ggaagacggc cacatcaggg tacagtgcat caacccctcc
1320
aacctgctct tggtaaagca gaagaaacag gctgcagttg agtcgggaaa cgggaactgg
1380
gcttgggaca agagccatcc caagtccaag gccaagtagg ctcgggagaa cagggcaaca
1440
tttcctacca cagcccaagg agacaaaaga gatattggga ggaggggaaa gagaagccca
1500
gacaaacagc agatgagttg agtggggcag agggacaggg cagccagacc aaggccaagc
1560
cttctcaccc ttggccagct ggaagggact ttcagcaacc aagaccacct ggcaacaggc
1620
tcagtggggg tcaggtccag gtccccgaag aggtgctgga gaggaaagca gggagccact
1680
gcatccagca catggggtgc ctgggcctca gatggggacc ccaaagaagc agaagctgaa
1740
gaaggtacgg ctgggggttc tgtcctgctc atccaaccac ccctaaatac ccaccctgtg
1800
gactttgagc tgaacatgcc cactggcccc caggccacat gggacctgga ggagcctacc
1860
tggggcctgc ccctgccagc aggtgccagg ctggtgagg aagagctggg gggcagaggt
1920
aaagccctgc aggggaggcc acagggtcca tcccgtcttc aggatcatct acactgcact
1980
aggggagccc caggaaggca gcaccctgga ggccctgtgc cagtgaggac aggagaccct
2040
aaggccccgg gagcccagtg ccagccagag gttgtgcagg caaggagacc aaagattgat
2100
gagaagaccc ccagcagggg tactgggtac ccggcaggcc agtgccctca cagttgactt
2160
```

                                      3342

```
ggaccagggt ggctgtgaag ggaagtcttt gttgcaaagg aggaggagga aaagggagga
2220
cttggtaggg ttttgtttct tctgcttgtt tctgtacagg gccaccagac tcctggagag
2280
atcaagcaag gagaacctgg ggctgccatg gccaaagcaa ctcaacagat gccaatgcca
2340
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2400
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3460
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<210> 4158
<211> 463
<212> PRT
<213> Homo sapiens

<400> 4158
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 1               5                   10                  15
Thr Arg Arg Cys Met Leu Ile Leu Gly Ile Pro Glu Asp Cys Gly Glu
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3343

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                        20                      25                      30
Asp Glu Phe Glu Glu Thr Leu Gln Glu Ala Cys Arg His Leu Gly Arg
        35                      40                      45
Tyr Arg Val Ile Gly Arg Met Phe Arg Arg Glu Glu Asn Ala Gln Ala
        50                      55                      60
Ile Leu Leu Glu Leu Ala Gln Asp Ile Asp Tyr Ala Leu Leu Pro Arg
65                      70                      75                      80
Glu Ile Pro Gly Lys Gly Gly Pro Trp Glu Val Ile Val Lys Pro Arg
                85                      90                      95
Asn Ser Asp Gly Glu Phe Leu Asn Arg Leu Asn Arg Phe Leu Glu Glu
                100                     105                     110
Glu Arg Arg Thr Val Ser Asp Met Asn Arg Val Leu Gly Ser Asp Thr
            115                     120                     125
Asn Cys Ser Ala Pro Arg Val Thr Ile Ser Pro Glu Phe Trp Thr Trp
    130                     135                     140
Ala Gln Thr Leu Gly Ala Ala Val Gln Pro Leu Leu Glu Gln Met Leu
145                     150                     155                     160
Tyr Arg Glu Leu Arg Val Phe Ser Gly Asn Thr Ile Ser Ile Pro Gly
                165                     170                     175
Ala Leu Ala Phe Asp Ala Trp Leu Glu His Thr Thr Glu Met Leu Gln
                180                     185                     190
Met Trp Gln Val Pro Glu Gly Glu Lys Arg Arg Arg Leu Met Glu Cys
                195                     200                     205
Leu Arg Gly Pro Ala Leu Gln Val Val Ser Gly Leu Arg Ala Ser Asn
    210                     215                     220
Ala Ser Ile Thr Val Glu Glu Cys Leu Ala Ala Leu Gln Gln Val Phe
225                     230                     235                     240
Gly Pro Val Glu Ser His Lys Ile Ala Gln Val Lys Leu Cys Lys Ala
                245                     250                     255
Tyr Gln Glu Ala Gly Glu Lys Val Ser Ser Phe Val Leu Arg Leu Glu
                260                     265                     270
Pro Leu Leu Gln Arg Ala Val Glu Asn Asn Val Val Ser Arg Arg Asn
    275                     280                     285
Val Asn Gln Thr Arg Leu Lys Arg Val Leu Ser Gly Ala Thr Leu Pro
    290                     295                     300
Asp Lys Leu Arg Asp Lys Leu Lys Leu Met Lys Gln Arg Arg Lys Pro
305                     310                     315                     320
Pro Gly Phe Leu Ala Leu Val Lys Leu Leu Arg Glu Glu Glu Glu Trp
                325                     330                     335
Glu Ala Thr Leu Gly Pro Asp Arg Glu Ser Leu Glu Gly Leu Glu Val
            340                     345                     350
Ala Pro Arg Pro Pro Ala Arg Ile Thr Gly Val Gly Ala Val Pro Leu
        355                     360                     365
Pro Ala Ser Gly Asn Ser Phe Asp Ala Arg Pro Ser Gln Gly Tyr Arg
        370                     375                     380
Arg Arg Arg Gly Arg Gly Gln His Arg Arg Gly Gly Val Ala Arg Ala
385                     390                     395                     400
Gly Ser Arg Gly Ser Arg Lys Arg Lys Arg His Thr Phe Cys Tyr Ser
                405                     410                     415
Cys Gly Glu Asp Gly His Ile Arg Val Gln Cys Ile Asn Pro Ser Asn
            420                     425                     430
Leu Leu Leu Val Lys Gln Lys Lys Gln Ala Ala Val Glu Ser Gly Asn
    435                     440                     445
Gly Asn Trp Ala Trp Asp Lys Ser His Pro Lys Ser Lys Ala Lys
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        450              455              460


<210> 4159
<211> 1491
<212> DNA
<213> Homo sapiens

<400> 4159
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120
ggagcaccgt ggagaatgga gagttttctg ttgctttcag tcgttgccct tacccatcct
180
tgcctacccc tggttattgc taaaatgggt aactgacaat aaagagatta gaagtgggtt
240
ataggaagcg aggtgggttc tagatgcaaa actaataccc tgtcccatgt gaaattgttt
300
ttgtgatttt gtggcgttgg ggatgacaga tgagacttga ggaatgcaaa tgtgctaatt
360
tcccacttga tgtattggaa agtgtggagc atgtatacat cacctggtta atttcatttg
420
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480
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540
ccagactgtg ggaataagtt cagcatccgg aaccgccgcc accactgccg cctctgcggg
600
tctattatgt gcaagaagtg tatggagctc atcagccttc ccttggcaaa caagctcacc
660
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720
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780
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1080
gaccctccac cacatccaag caatttgcgg ctgcagagaa tgatcagata ctcagctaca
1140
ctttttgtgc aggaaaagtt gcttggtttg atgtcactgc caaccaaaga acagtttgag
1200
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gccctggagt cccagcgaag gcttgaggaa aggcagagtg gcctggcttc tcgagcggcc
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1380
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ctcccactgt caggaggtca ggggcagagt gaggactcag acccgctcct ccagcagatc
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1491

<210> 4160
<211> 360
<212> PRT
<213> Homo sapiens

<400> 4160
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Thr Asn Thr Glu Ser Ala Lys Ile Arg Ala Ile Glu Lys Ser Val Val
            20   25   30
Pro Trp Val Asn Asp Gln Asp Val Pro Phe Cys Pro Asp Cys Gly Asn
        35   40   45
Lys Phe Ser Ile Arg Asn Arg Arg His His Cys Arg Leu Cys Gly Ser
    50   55   60
Ile Met Cys Lys Lys Cys Met Glu Leu Ile Ser Leu Pro Leu Ala Asn
65   70   75   80
Lys Leu Thr Ser Ala Ser Lys Glu Ser Leu Ser Thr His Thr Ser Pro
                85   90   95
Ser Gln Ser Pro Asn Ser Val His Gly Ser Arg Arg Gly Ser Ile Ser
            100   105   110
Ser Met Ser Ser Val Ser Ser Val Leu Asp Glu Lys Asp Asp Asp Arg
        115   120   125
Ile Arg Cys Cys Thr His Cys Lys Asp Thr Leu Leu Lys Arg Glu Gln
    130   135   140
Gln Ile Asp Glu Lys Glu His Thr Pro Asp Ile Val Lys Leu Tyr Glu
145   150   155   160
Lys Leu Arg Leu Cys Met Glu Lys Val Asp Gln Lys Ala Pro Glu Tyr
                165   170   175
Ile Arg Met Ala Ala Ser Leu Asn Ala Gly Glu Thr Thr Tyr Ser Leu
            180   185   190
Glu His Ala Ser Asp Leu Arg Val Glu Val Gln Lys Val Tyr Glu Leu
        195   200   205
Ile Asp Ala Leu Ser Lys Lys Ile Leu Thr Leu Gly Leu Asn Gln Asp
    210   215   220
Pro Pro Pro His Pro Ser Asn Leu Arg Leu Gln Arg Met Ile Arg Tyr
225   230   235   240
Ser Ala Thr Leu Phe Val Gln Glu Lys Leu Leu Gly Leu Met Ser Leu
                245   250   255
Pro Thr Lys Glu Gln Phe Glu Glu Leu Lys Lys Lys Arg Lys Glu Glu
                260   265   270
Met Glu Arg Lys Arg Ala Val Glu Arg Gln Ala Ala Leu Glu Ser Gln
            275   280   285
Arg Arg Leu Glu Glu Arg Gln Ser Gly Leu Ala Ser Arg Ala Ala Asn
        290   295   300
Gly Glu Val Ala Ser Leu Arg Arg Gly Pro Ala Pro Leu Lys Lys Ala
305   310   315   320
Glu Gly Trp Leu Pro Leu Ser Gly Gly Gln Gly Gln Ser Glu Asp Ser
                325   330   335
Asp Pro Leu Leu Gln Gln Ile His Asn Ile Thr Ser Phe Ile Arg Gln

3346

```
                340                    345                       350
     Ala Lys Ala Ala Gly Pro His Gly
              355                  360


     <210> 4161
     <211> 3316
     <212> DNA
     <213> Homo sapiens


     <400> 4161
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     120
     ggaaatggtg ctcttgcaga acattctgaa aatgtgcata tttcaggagt gtcaactgct
     180
     tgtggagaga ctccagagca aatacgagca ccaagtggca taatcacaag cccaggctgg
     240
     ccttctgaat atcctgcaaa aatcaactgt agctggttca taagggcaaa cccaggcgaa
     300
     atcattacta taagttttca ggattttgat attcaaggat ccagaaggtg caatttggac
     360
     tggttgacaa tagaaacata caagaatatt gaaagttaca gagcttgtgg ttccacaatt
     420
     ccacctccgt atatctcttc acaagaccac atctggatta ggtttcattc ggatgacaac
     480
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     600
     aacatggatg aatgtggaga tagttccgat gaagagatct gtgccaaaga agcaaatcct
     660
     ccaactgctg ctgcttttca accctgtgct tacaaccagt tccagtgttt atcccgtttt
     720
     accaaagttt acacttgcct ccccgaatct ttaaaatgtg atgggaacat tgactgcctt
     780
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     840
     tatggtactt ttaattctcc caattatcca gacttttatc ctcctggaag caattgcacc
     900
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     960
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     aagctttgc gtgtgttgac agcttttgat tctcatgcac ctcttacagt tgtttcttct
     1080
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     1140
     gctacttacc aagtagatgg gttctgtttg ccatgggaaa taccctgtgg aggtaactgg
     1200
     gggtgttata ctgagcagca gcgttgtgat gggtattggc attgcccaaa tggaagggat
     1260
     gaaaccaatt gtaccatgtg ccagaaggaa gaatttccat gttcccgaaa tggtgtctgt
     1320
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2100
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2880
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2940
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3060
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3120
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3180
ctcttacgtt taacatacaa tcatgtgaga tttaggcaga gttcgataaa ttactggcaa
3240
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3300
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3316
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<210> 4162
<211> 859
<212> PRT
<213> Homo sapiens

<400> 4162

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Met Ala Cys Arg Trp Ser Thr Lys Glu Ser Pro Arg Trp Arg Ser Ala
1               5                   10                  15
Leu Leu Leu Leu Phe Leu Ala Gly Val Tyr Gly Asn Gly Ala Leu Ala
            20                  25                  30
Glu His Ser Glu Asn Val His Ile Ser Gly Val Ser Thr Ala Cys Gly
        35                  40                  45
Glu Thr Pro Glu Gln Ile Arg Ala Pro Ser Gly Ile Ile Thr Ser Pro
    50                  55                  60
Gly Trp Pro Ser Glu Tyr Pro Ala Lys Ile Asn Cys Ser Trp Phe Ile
65                  70                  75                  80
Arg Ala Asn Pro Gly Glu Ile Ile Thr Ile Ser Phe Gln Asp Phe Asp
                85                  90                  95
Ile Gln Gly Ser Arg Arg Cys Asn Leu Asp Trp Leu Thr Ile Glu Thr
                100                 105                 110
Tyr Lys Asn Ile Glu Ser Tyr Arg Ala Cys Gly Ser Thr Ile Pro Pro
        115                 120                 125
Pro Tyr Ile Ser Ser Gln Asp His Ile Trp Ile Arg Phe His Ser Asp
        130                 135                 140
Asp Asn Ile Ser Arg Lys Gly Phe Arg Leu Ala Tyr Phe Ser Gly Lys
145                 150                 155                 160
Ser Glu Glu Pro Asn Cys Ala Cys Asp Gln Phe Arg Cys Gly Asn Gly
                165                 170                 175
Lys Cys Ile Pro Glu Ala Trp Lys Cys Asn Asn Met Asp Glu Cys Gly
                180                 185                 190
Asp Ser Ser Asp Glu Glu Ile Cys Ala Lys Glu Ala Asn Pro Pro Thr
        195                 200                 205
Ala Ala Ala Phe Gln Pro Cys Ala Tyr Asn Gln Phe Gln Cys Leu Ser
        210                 215                 220
Arg Phe Thr Lys Val Tyr Thr Cys Leu Pro Glu Ser Leu Lys Cys Asp
225                 230                 235                 240
Gly Asn Ile Asp Cys Leu Asp Leu Gly Asp Glu Ile Asp Cys Asp Val
                245                 250                 255
Pro Thr Cys Gly Gln Trp Leu Lys Tyr Phe Tyr Gly Thr Phe Asn Ser
```

```
                    260                   265                   270
Pro Asn Tyr Pro Asp Phe Tyr Pro Pro Gly Ser Asn Cys Thr Trp Leu
        275                   280                   285
Ile Asp Thr Gly Asp His Arg Lys Val Ile Leu Arg Phe Thr Asp Phe
        290                   295                   300
Lys Leu Asp Gly Thr Gly Tyr Gly Asp Tyr Val Lys Ile Tyr Asp Gly
305                   310                   315                   320
Leu Glu Glu Asn Pro His Lys Leu Leu Arg Val Leu Thr Ala Phe Asp
                325                   330                   335
Ser His Ala Pro Leu Thr Val Val Ser Ser Ser Gly Gln Ile Arg Val
                340                   345                   350
His Phe Cys Ala Asp Lys Val Asn Ala Ala Arg Gly Phe Asn Ala Thr
                355                   360                   365
Tyr Gln Val Asp Gly Phe Cys Leu Pro Trp Glu Ile Pro Cys Gly Gly
        370                   375                   380
Asn Trp Gly Cys Tyr Thr Glu Gln Gln Arg Cys Asp Gly Tyr Trp His
385                   390                   395                   400
Cys Pro Asn Gly Arg Asp Glu Thr Asn Cys Thr Met Cys Gln Lys Glu
                405                   410                   415
Glu Phe Pro Cys Ser Arg Asn Gly Val Cys Tyr Pro Arg Ser Asp Arg
                420                   425                   430
Cys Asn Tyr Gln Asn His Cys Pro Asn Gly Ser Asp Glu Lys Asn Cys
                435                   440                   445
Phe Phe Cys Gln Pro Gly Asn Phe His Cys Lys Asn Asn Arg Cys Val
        450                   455                   460
Phe Glu Ser Trp Val Cys Asp Ser Gln Asp Asp Cys Gly Asp Gly Ser
465                   470                   475                   480
Asp Glu Glu Asn Cys Pro Val Ile Val Pro Thr Arg Val Ile Thr Ala
                485                   490                   495
Ala Val Ile Gly Ser Leu Ile Cys Gly Leu Leu Leu Val Ile Ala Leu
                500                   505                   510
Gly Cys Thr Cys Lys Leu Tyr Ser Leu Arg Met Phe Glu Arg Arg Ser
        515                   520                   525
Phe Glu Thr Gln Leu Ser Arg Val Glu Ala Glu Leu Leu Arg Arg Glu
        530                   535                   540
Ala Pro Pro Ser Tyr Gly Gln Leu Ile Ala Gln Gly Leu Ile Pro Pro
545                   550                   555                   560
Val Glu Asp Phe Pro Val Cys Ser Pro Asn Gln Ala Ser Val Leu Glu
                565                   570                   575
Asn Leu Arg Leu Ala Val Arg Ser Gln Leu Gly Phe Thr Ser Val Arg
        580                   585                   590
Leu Pro Met Ala Gly Arg Ser Ser Asn Ile Trp Asn Arg Ile Phe Asn
        595                   600                   605
Phe Ala Arg Ser Arg His Ser Gly Ser Leu Ala Leu Val Ser Ala Asp
        610                   615                   620
Gly Asp Glu Val Val Pro Ser Gln Ser Thr Ser Arg Glu Pro Glu Arg
625                   630                   635                   640
Asn His Thr His Arg Ser Leu Phe Ser Val Glu Ser Asp Asp Thr Asp
                645                   650                   655
Thr Glu Asn Glu Arg Arg Asp Met Ala Gly Ala Ser Gly Gly Val Ala
                660                   665                   670
Ala Pro Leu Pro Gln Lys Val Pro Pro Thr Thr Ala Val Glu Ala Thr
        675                   680                   685
Val Gly Ala Cys Ala Ser Ser Ser Thr Gln Ser Thr Arg Gly Gly His
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3350

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              690                   695                   700
Ala Asp Asn Gly Arg Asp Val Thr Ser Val Glu Pro Pro Ser Val Ser
705                   710                   715                   720
Pro Ala Arg His Gln Leu Thr Ser Ala Leu Ser Arg Met Thr Gln Gly
                  725                   730                   735
Leu Arg Trp Val Arg Phe Thr Leu Gly Arg Ser Ser Ser Leu Ser Gln
              740                   745                   750
Asn Gln Ser Pro Leu Arg Gln Leu Asp Asn Gly Val Ser Gly Arg Glu
          755                   760                   765
Asp Asp Asp Asp Val Glu Met Leu Ile Pro Ile Ser Asp Gly Ser Ser
          770                   775                   780
Asp Phe Asp Val Asn Asp Cys Ser Arg Pro Leu Leu Asp Leu Ala Ser
785                   790                   795                   800
Asp Gln Gly Gln Gly Leu Arg Gln Pro Tyr Asn Ala Thr Asn Pro Gly
                  805                   810                   815
Val Arg Pro Ser Asn Arg Asp Gly Pro Cys Glu Arg Cys Gly Ile Val
              820                   825                   830
His Thr Ala Gln Ile Pro Asp Thr Cys Leu Glu Val Thr Leu Lys Asn
          835                   840                   845
Glu Thr Ser Asp Asp Glu Ala Leu Leu Leu Cys
          850                   855
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<210> 4163
<211> 568
<212> DNA
<213> Homo sapiens

<400> 4163
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actccagggc tcccaggtca gagtggccat ggtagcttac aatgcggcct gcaggaccca
120
gcaggcagcc ggcccctctc ccctcccttt tcccgcctgc gctctgaagg ctccaagtca
180
gtgttgcccc agtggctctg ggggatgaag gggatcccgg tcccatctgg acaccctcaa
240
gctgatggac gcagagctct ggtgcgggca gtgggtcacc cccaggacct gctgaccgaa
300
gcctctcccc gctgcccggc aggcccttca ccgctgagat ctaccggcag aaagcctccg
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420
ttggcttgcc ccaagtggca ggccttgcgc agggcgagaa tggtgcctgt tgttcagggc
480
tcgcccccgg cgtgggctgc cccagtgcct tggaacctgc tgccttgggg accctggacg
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tgccgacata tggccattga gctccaac
568

<210> 4164
<211> 187
<212> PRT
<213> Homo sapiens

<400> 4164
Asn Leu Ser Leu Trp Pro Gly Gln Ala Gln Asp Arg Leu Pro Ser Ala
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Arg Pro Thr Pro Gly Leu Pro Gly Gln Ser Gly His Gly Ser Leu Gln
            20   25   30
Cys Gly Leu Gln Asp Pro Ala Gly Ser Arg Pro Leu Ser Pro Pro Phe
        35   40   45
Ser Arg Leu Arg Ser Glu Gly Ser Lys Ser Val Leu Pro Gln Trp Leu
    50   55   60
Trp Gly Met Lys Gly Ile Pro Val Pro Ser Gly His Pro Gln Ala Asp
65   70   75   80
Gly Arg Arg Ala Leu Val Arg Ala Val Gly His Pro Gln Asp Leu Leu
            85   90   95
Thr Glu Ala Ser Pro Arg Cys Pro Ala Gly Pro Ser Pro Leu Arg Ser
            100   105   110
Thr Gly Arg Lys Pro Pro Gly Pro Pro Arg Gly Gly Asp Leu Ala Ala
        115   120   125
Pro Val Leu Phe Lys Ala Trp Ala Thr Ser Leu Ala Cys Pro Lys Trp
    130   135   140
Gln Ala Leu Arg Arg Ala Arg Met Val Pro Val Val Gln Gly Ser Pro
145   150   155   160
Pro Ala Trp Ala Ala Pro Val Pro Trp Asn Leu Leu Pro Trp Gly Pro
                165   170   175
Trp Thr Cys Arg His Met Ala Ile Glu Leu Gln
            180   185

<210> 4165
<211> 717
<212> DNA
<213> Homo sapiens

<400> 4165
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120
ctgctggact gcgccaggcg tatcctggag agggaggggc cccgtgcctt ctaccgcggc
180
tacctcccca cgtgctggg catcatcccc tatgcgggca tcgacctggc cgtctacgag
240
actctgaaga actggtggct tcagcagtac agccacgact cggcagaccc aggcatcctc
300
gtgctcctgg cctgcggtac catatccagc acctgcggcc agatagccag ttacccgctg
360
gccctggtcc ggacccgcat gcaggcacaa ggatttcatc atgttgccca ggctcatctc
420
gaactcgtgg ggtcaaggaa ttcgccagcc ttcagcctcc caacgtgctg ggattacagg
480
aagccggtgg tcatgccatg agcagcctta tggagaggac catgtggtaa ggaactcagc
540
caatagccat gtaactgagc ttggaagagg atcttgctgt cctggccaac atctcactgc
600
aattctatca gttgaattcc ctggatagtc caagctttgt ggatccctcc accagaacaa
660

```
ctggatccca gtacctgaat cctgaatctt agactcttat acttcaaaca ctgatca
717
```

```
<210> 4166
<211> 166
<212> PRT
<213> Homo sapiens
```

```
<400> 4166
Xaa Val Gln Glu Arg Phe Val Ala Gly Ser Leu Ala Gly Ala Thr Ala
 1               5                   10                  15
Gln Thr Ile Ile Tyr Pro Met Glu Val Leu Lys Thr Arg Leu Thr Leu
            20                  25                  30
Arg Arg Thr Gly Gln Tyr Lys Gly Leu Leu Asp Cys Ala·Arg Arg Ile
        35                  40                  45
Leu Glu Arg Glu Gly Pro Arg Ala Phe Tyr Arg Gly Tyr Leu Pro Asn
    50                  55                  60
Val Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val Tyr Glu
65                  70                  75                  80
Thr Leu Lys Asn Trp Trp Leu Gln Gln Tyr Ser His Asp Ser Ala Asp
                85                  90                  95
Pro Gly Ile Leu Val Leu Leu Ala Cys Gly Thr Ile Ser Ser Thr Cys
            100                 105                 110
Gly Gln Ile Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg Met Gln
            115                 120                 125
Ala Gln Gly Phe His His Val Ala Gln Ala His Leu Glu Leu Val Gly
        130                 135                 140
Ser Arg Asn Ser Pro Ala Phe Ser Leu Pro Thr Cys Trp Asp Tyr Arg
145                 150                 155                 160
Lys Pro Val Val Met Pro
                165
```

```
<210> 4167
<211> 897
<212> DNA
<213> Homo sapiens
```

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<400> 4167
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60
cgagaacgtg cgggaagaga agatcatcga gcatttcaaa cggctggtgt gcaatggcgt
120
gatctcagcc caccgcaact tccgcctcct gggatcaagc aatcctcctg cttcagcctc
180
ctgagtagct tggactacag atatggccgc gtggaaagtg tcaaaattct tcccaagagg
240
ggatctgaag gaggagtggc tgcctttgtg dattttgtgg acatcaaaag tgcacagaaa
300
gctcacaact cggtcaacaa aatgggtgac agagacctac gcacggatta taatgaacca
360
ggcaccatcc cgagtgctgc tcggggattg gatgatacag tttccatagc atctcgtagt
420
agagaggttt ctgggttcag aggaggtggt ggagggcctg cttatggtcc cccaccgtca
480
```

```
cttcatgcac gagaaggacg ttatgagcgg agacttgatg gggcttcaga taacagggag
540
cgtgcttatg aacatagtgc ctatggacac catgaacggg ggacgggagg atttgatcgg
600
acaagacatt acgatcagga ttactataga gatcctcgag agcggacttt acaacatggg
660
ctctattacg cttctcggag tcgaagtcca aatcgctttg atgctcatga cccccgatat
720
gaacctaggg ctcgcgagca gtttacactg cccagtgtgg tacacaggga tatctacagg
780
gatgatatta cccgggaggt acgaggcaga aggccagagc ggaattacca gcacagcagg
840
agtcggtcac cacattcatc ccagtctaga aatcagtctc ctcagagact ggctagc
897
```

<210> 4168
<211> 299
<212> PRT
<213> Homo sapiens

<400> 4168

```
Xaa Arg His Ala Ala Gln His Gly Pro Gly Asn Gln Ala Ser Leu Gly
1               5                   10                  15
Gly Gln Phe Thr Arg Glu Arg Ala Gly Arg Glu Asp His Arg Ala Phe
            20                  25                  30
Gln Thr Ala Gly Val Gln Trp Arg Asp Leu Ser Pro Pro Gln Leu Pro
        35                  40                  45
Pro Pro Gly Ile Lys Gln Ser Ser Cys Phe Ser Leu Leu Ser Ser Leu
    50                  55                  60
Asp Tyr Arg Tyr Gly Arg Val Glu Ser Val Lys Ile Leu Pro Lys Arg
65                  70                  75                  80
Gly Ser Glu Gly Gly Val Ala Ala Phe Val Asp Phe Val Asp Ile Lys
                85                  90                  95
Ser Ala Gln Lys Ala His Asn Ser Val Asn Lys Met Gly Asp Arg Asp
            100                 105                 110
Leu Arg Thr Asp Tyr Asn Glu Pro Gly Thr Ile Pro Ser Ala Ala Arg
        115                 120                 125
Gly Leu Asp Asp Thr Val Ser Ile Ala Ser Arg Ser Arg Glu Val Ser
    130                 135                 140
Gly Phe Arg Gly Gly Gly Gly Pro Ala Tyr Gly Pro Pro Pro Ser
145                 150                 155                 160
Leu His Ala Arg Glu Gly Arg Tyr Glu Arg Arg Leu Asp Gly Ala Ser
            165                 170                 175
Asp Asn Arg Glu Arg Ala Tyr Glu His Ser Ala Tyr Gly His His Glu
            180                 185                 190
Arg Gly Thr Gly Gly Phe Asp Arg Thr Arg His Tyr Asp Gln Asp Tyr
            195                 200                 205
Tyr Arg Asp Pro Arg Glu Arg Thr Leu Gln His Gly Leu Tyr Tyr Ala
    210                 215                 220
Ser Arg Ser Arg Ser Pro Asn Arg Phe Asp Ala His Asp Pro Arg Tyr
225                 230                 235                 240
Glu Pro Arg Ala Arg Glu Gln Phe Thr Leu Pro Ser Val Val His Arg
                245                 250                 255
Asp Ile Tyr Arg Asp Asp Ile Thr Arg Glu Val Arg Gly Arg Arg Pro
```

```
              260              265              270
     Glu Arg Asn Tyr Gln His Ser Arg Ser Arg Ser Pro His Ser Ser Gln
          275              280              285
     Ser Arg Asn Gln Ser Pro Gln Arg Leu Ala Ser
          290              295


<210> 4169
<211> 4743
<212> DNA
<213> Homo sapiens


<400> 4169
gtggttatgg agcagctgcc ggggggtgcca ccaggccccc cccaccccgt tcgaccgcca
60
cccccgcctc caccacccat gcccctgcag ctcgaggccc acctccgcag ccatggcctg
120
gagcccgcgg cccccagccc ccgcctgcga cccgaggaga gcctggatcc gccaggcgcc
180
atgcaggaat tgctcggggc tctggagccg ctgcccccgg cgcctgggga tactggcgta
240
ggcccaccaa actcggaggg caaggatccc gcaggcgcct accgcagccc cagcccgcaa
300
ggcaccaagg cgccgcgttt cgtgccgctc acctccatct gcttccctga ctccttgctc
360
caagacgagg agcgcagctt cttccccacc atggaggaga tgttcggtgg aggggccgcg
420
gacgactacg gcaaggccgg gccacctgag gacgagggg accccaaggc tggcgctggg
480
ccacccccccg gccccctgc ttatgatccc tatgggccct actgtcctgg ccgggcgtcg
540
ggagccgggc ccgagacacc gggcctgggc ctggacccca acaaaccgcc tgaactgccc
600
tccacggtca cgccgagcc gctgggcctg atccagagtg ccccccacca ggcggcgcca
660
ccaccccccgc ctccgccacc gccgcctccc gcgccggcct ccgaacccaa gggtggcctc
720
acctcgccca tcttctgctc taccaagcca aagaagctgc tcaagacatc ctccttccac
780
ctgctgcggc gccgcgaccc acccttccag accccaaga agctgtacgc ccaggagtac
840
gagttcgagg cggacgagga caaggccgat gttcccgccg acatccgcct caacccccgg
900
cgcttgcctg acctggtctc cagctgccgc tcccgtccgg ccctctcgcc actgggggac
960
atcgacttct gcctacccaa cccaggaccc gatggccccc ggcgccgtgg ccgcaagccc
1020
acgaaggcga aacgtgatgg gccaccccgg ccacggggga ggccccggat ccgccccctg
1080
gaggtcccga ccactgcggg gcccgcctcg gcctccacgc ccaccgatgg cgccaagaaa
1140
cccccggggcc ggggccgagg ccggggtcga aaggctgagg aggcaggggg cacccggttg
1200
gagccccctga agccacttaa gatcaagctg tctgtgccca aggctggcga gggtctggga
1260
```

```
acctcatcgg gtgatgccat atcaggcact gaccacaaca gcctggactc gagcctgact
1320
cgggagaaga tcgaggccaa gattaaggag gtggaggaga agcagccgga gatgaagtcg
1380
ggtttcatgg cctccttctt ggacttcctc aagtcaggca agcgccaccc accactctac
1440
caggcgggcc tgacgcctcc gctcagccct cccaagagtg tgccaccctc tgtgccagcc
1500
cgaggcctgc agccccagcc ccctgccacc cctgctgtgc cacatccccc accttccgga
1560
gcctttgggc ttggggggcgc cctggaggct gcagagagtg agggtctggg gcttggctgc
1620
ccttcaccct gcaagcggct tgatgaggag ctgaagcgga acctcgagac gctgccctcc
1680
ttctcctcgg atgaggaaga ctctgtcgcc aagaaccgag acctgcagga gagcatctcc
1740
tccgccatct ctgccctcga tgacccaccc cttgctgggc caaaagacac ttccaccccca
1800
gatgggccgc ccttggcccc cgcggctgca gttccagggc caccccctct tccggggctc
1860
cccagtgcca acagcaatgg cactcccgag cccccgctgc tggaggagaa accccccaccc
1920
actccacctc ctgccccgac tcctcagcct cagcctccgc cacccccctcc gccgccacag
1980
ccagccctgc cctcgccacc cccgctggtg gcccccacgc ccagctcacc accgccaccg
2040
ccgctgccgc cgccacctcc accagccatg ccctcgcctc caccaccacc cccaccagcc
2100
gctgccccac tggctgctcc tcctgaggag cccgccgccc cgtctcccga agacccccgag
2160
ctgccggaca cccggccccct gcatctggcc aaaaagcagg agacggcggc agtgtgtggg
2220
gagacggacg aggaggccgg cgagagtggc ggagagggca tcttccggga acgggacgag
2280
ttcgtcatcc gtgctgagga catcccttcc ctcaagctgg cgttgcagac ggggcgtgaa
2340
cccccaccca tctggcgagt ccagaaggcc cttctgcaga aattcactcc ggagatcaag
2400
gacggccaga ggcagttttg tgccaccagt aattatttgg ggtattttgg ggatgcaaaa
2460
aatcggtacc agcgcctcta tgtaaagttc ctggaaaatg tcaataagaa ggactacgtg
2520
agggtctgtg ctcggaaacc ctggcatcgg cccccagtgc cagtcagacg ctctgggcag
2580
gccaagaacc ccgtatctgc tggggggtagc tctgcacctc cccctaaggc cccagcacca
2640
cctcccaagc ctgagacccc tgaaaagacg acatctgaga agcccccagc agcagactcc
2700
tgagacggcc atgcctgagc ccctgcccc cgagaagccc tccctcctgc ggcctgttga
2760
gaaggaaaag gagaaggaga aggtgacacg tggagagcgg ccattgcggg gtgagcgggc
2820
caccagcgga cggcagacac ggccagagcg gagtctcgcc acgggacaac ctgccacatc
2880
```

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ccggctgccc aaagcccggc ctaccaaggt gaaggctgaa ccgccccta agaagaggaa
2940
gaaatggctg aaggaggcag gcggcaacgc tacagcaggc gggggcccac caggcagctc
3000
ctcggactcg gagtcctccc ctggagcccc cagcgaggac gagcgggcag tacctgggcg
3060
tctgctcaaa accagggcga tgcgggagat gtaccggagc tacgtggaga tgttggtgag
3120
cacagcactt gacccagaca tgatccaggc cctggaggac acgcatgacg agctgtacct
3180
gcccccatg cggaagatag acggcctgct gaatgagcac aagaagaaag tcctgaagcg
3240
gctgtcgcta agcccagccc tgcaggatgc tctgcacacg ttcccacagc tgcaagtgga
3300
gcagagtggg gagggctctc cggaagaggg ggctgtgcgg ctgcggcctg ctggggaacc
3360
ctacaaccgc aagacgctca gcaagctcaa gaggagcgtg gtcagagccc aggagttcaa
3420
ggttgagctg gaaaagtcgg gatactatac actctaccat tcgctccacc actataaata
3480
ccacaccttc ctgcgctgcc gggaccagac cctggccatc gagggcggcg ccgaggacct
3540
gggccaggag gaggtggtcc agcagtgcat gcggaaccag ccgtggctgg aacagctctt
3600
tgactccttc agtgacctgc tggcccaagc acaggcccac agccgctgcg ggtgaccccg
3660
ccccagcttg tgaggggggc gcctcctcca tgaaccgaga attgggacag aaccgtgtcc
3720
tcaggagcta acacctgggc tccatcgccg gggaaggggg gtcatgggtc agggtgtgtc
3780
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3840
tttccgctgg cccgcagccg ccgcgacttc ggcacagttt ctccctctgg ctagtctccc
3900
aaacggtttc cctctcccct tgccccgacc cccctccac agccacagcc cccgcccct
3960
ccaccttgta cataatgtat aggaaaagtc tatgtatggc tggggggggt ggggtggctt
4020
cagagagctg ggggacccct tcccccaag tccccctgc aggccaagat ctttgctaaa
4080
ggccattccc tccgcagggc atttggcgtc gggtgggagg ggaaaacgca tcttgttaat
4140
tattttaat cttatttatt gtacatacct ggggcagggg cttggggagg tggaggggggg
4200
agaagggtcc cctctctctg cccctcccac tccttttcta cggcgatttg tctgtgtctg
4260
gcccccaccc actgcccatc ccccattgtt gtctggatgt ggttctattt tttatcggtc
4320
tcctttcccc tcctcccgt tctcgccccc gccaccccc ctgctcccac tacccttgt
4380
ctcttgctct ttcttgggct tctgtacaac tcaacttgta tacactgtgt acacacaacc
4440
agccaaacga aaacccaacg gcaaacactt taccggcagg ctggagtgcc tctgtcctgc
4500
```

```
ggcgctggag tgggtggcag tggtagcagg ggcagaggtt ctggaacggg actttcccag
4560
agccctgggc agtggggggc ctgaggctgg catatgttct gtgtccccgc acagcagagt
4620
atcccaccct gaaatttaat gacttcagac aacaaatatt tatcactggg gggtttcttt
4680
tgttttttag ctaaagacag ggtctcgctc tgtcacccag gttggagtgc agtggcatga
4740
tca
4743
```

```
<210> 4170
<211> 900
<212> PRT
<213> Homo sapiens

<400> 4170
Val Val Met Glu Gln Leu Pro Gly Val Pro Pro Gly Pro Pro His Pro
1               5                   10                  15
Val Arg Pro Pro Pro Pro Pro Pro Pro Met Pro Leu Gln Leu Glu
            20                  25                  30
Ala His Leu Arg Ser His Gly Leu Glu Pro Ala Ala Pro Ser Pro Arg
            35                  40                  45
Leu Arg Pro Glu Glu Ser Leu Asp Pro Pro Gly Ala Met Gln Glu Leu
    50                  55                  60
Leu Gly Ala Leu Glu Pro Leu Pro Pro Ala Pro Gly Asp Thr Gly Val
65                  70                  75                  80
Gly Pro Pro Asn Ser Glu Gly Lys Asp Pro Ala Gly Ala Tyr Arg Ser
                85                  90                  95
Pro Ser Pro Gln Gly Thr Lys Ala Pro Arg Phe Val Pro Leu Thr Ser
            100                 105                 110
Ile Cys Phe Pro Asp Ser Leu Leu Gln Asp Glu Glu Arg Ser Phe Phe
        115                 120                 125
Pro Thr Met Glu Glu Met Phe Gly Gly Gly Ala Ala Asp Asp Tyr Gly
    130                 135                 140
Lys Ala Gly Pro Pro Glu Asp Glu Gly Asp Pro Lys Ala Gly Ala Gly
145                 150                 155                 160
Pro Pro Pro Gly Pro Pro Ala Tyr Asp Pro Tyr Gly Pro Tyr Cys Pro
                165                 170                 175
Gly Arg Ala Ser Gly Ala Gly Pro Glu Thr Pro Gly Leu Gly Leu Asp
                180                 185                 190
Pro Asn Lys Pro Pro Glu Leu Pro Ser Thr Val Asn Ala Glu Pro Leu
            195                 200                 205
Gly Leu Ile Gln Ser Gly Pro His Gln Ala Ala Pro Pro Pro Pro Pro
    210                 215                 220
Pro Pro Pro Pro Pro Ala Pro Ala Ser Glu Pro Lys Gly Gly Leu
225                 230                 235                 240
Thr Ser Pro Ile Phe Cys Ser Thr Lys Pro Lys Lys Leu Leu Lys Thr
                245                 250                 255
Ser Ser Phe His Leu Leu Arg Arg Arg Asp Pro Pro Phe Gln Thr Pro
                260                 265                 270
Lys Lys Leu Tyr Ala Gln Glu Tyr Glu Phe Glu Ala Asp Glu Asp Lys
            275                 280                 285
Ala Asp Val Pro Ala Asp Ile Arg Leu Asn Pro Arg Arg Leu Pro Asp
```

```
            290                    295                    300
Leu Val Ser Ser Cys Arg Ser Arg Pro Ala Leu Ser Pro Leu Gly Asp
305                    310                    315                    320
Ile Asp Phe Cys Leu Pro Asn Pro Gly Pro Asp Gly Pro Arg Arg Arg
                325                    330                    335
Gly Arg Lys Pro Thr Lys Ala Lys Arg Asp Gly Pro Pro Arg Pro Arg
                340                    345                    350
Gly Arg Pro Arg Ile Arg Pro Leu Glu Val Pro Thr Thr Ala Gly Pro
            355                    360                    365
Ala Ser Ala Ser Thr Pro Thr Asp Gly Ala Lys Lys Pro Arg Gly Arg
            370                    375                    380
Gly Arg Gly Arg Gly Arg Lys Ala Glu Glu Ala Gly Gly Thr Arg Leu
385                    390                    395                    400
Glu Pro Leu Lys Pro Leu Lys Ile Lys Leu Ser Val Pro Lys Ala Gly
                405                    410                    415
Glu Gly Leu Gly Thr Ser Ser Gly Asp Ala Ile Ser Gly Thr Asp His
                420                    425                    430
Asn Ser Leu Asp Ser Ser Leu Thr Arg Glu Lys Ile Glu Ala Lys Ile
                435                    440                    445
Lys Glu Val Glu Glu Lys Gln Pro Glu Met Lys Ser Gly Phe Met Ala
            450                    455                    460
Ser Phe Leu Asp Phe Leu Lys Ser Gly Lys Arg His Pro Pro Leu Tyr
465                    470                    475                    480
Gln Ala Gly Leu Thr Pro Pro Leu Ser Pro Pro Lys Ser Val Pro Pro
                485                    490                    495
Ser Val Pro Ala Arg Gly Leu Gln Pro Gln Pro Pro Ala Thr Pro Ala
            500                    505                    510
Val Pro His Pro Pro Pro Ser Gly Ala Phe Gly Leu Gly Gly Ala Leu
            515                    520                    525
Glu Ala Ala Glu Ser Glu Gly Leu Gly Leu Gly Cys Pro Ser Pro Cys
            530                    535                    540
Lys Arg Leu Asp Glu Glu Leu Lys Arg Asn Leu Glu Thr Leu Pro Ser
545                    550                    555                    560
Phe Ser Ser Asp Glu Glu Asp Ser Val Ala Lys Asn Arg Asp Leu Gln
                565                    570                    575
Glu Ser Ile Ser Ser Ala Ile Ser Ala Leu Asp Asp Pro Pro Leu Ala
                580                    585                    590
Gly Pro Lys Asp Thr Ser Thr Pro Asp Gly Pro Pro Leu Ala Pro Ala
            595                    600                    605
Ala Ala Val Pro Gly Pro Pro Pro Leu Pro Gly Leu Pro Ser Ala Asn
            610                    615                    620
Ser Asn Gly Thr Pro Glu Pro Pro Leu Leu Glu Glu Lys Pro Pro Pro
625                    630                    635                    640
Thr Pro Pro Pro Ala Pro Thr Pro Gln Pro Gln Pro Pro Pro Pro Pro
                645                    650                    655
Pro Pro Pro Gln Pro Ala Leu Pro Ser Pro Pro Leu Val Ala Pro
            660                    665                    670
Thr Pro Ser Ser Pro Pro Pro Pro Leu Pro Pro Pro Pro Pro
            675                    680                    685
Ala Met Pro Ser Pro Pro Pro Pro Pro Pro Ala Ala Ala Pro Leu
            690                    695                    700
Ala Ala Pro Pro Glu Glu Pro Ala Ala Pro Ser Pro Glu Asp Pro Glu
705                    710                    715                    720
Leu Pro Asp Thr Arg Pro Leu His Leu Ala Lys Lys Gln Glu Thr Ala
```

```
                           725                      730                      735
Ala Val Cys Gly Glu Thr Asp Glu Glu Ala Gly Glu Ser Gly Gly Glu
                740                      745                      750
Gly Ile Phe Arg Glu Arg Asp Glu Phe Val Ile Arg Ala Glu Asp Ile
            755                      760                      765
Pro Ser Leu Lys Leu Ala Leu Gln Thr Gly Arg Glu Pro Pro Ile
        770                      775                      780
Trp Arg Val Gln Lys Ala Leu Leu Gln Lys Phe Thr Pro Glu Ile Lys
785                      790                      795                      800
Asp Gly Gln Arg Gln Phe Cys Ala Thr Ser Asn Tyr Leu Gly Tyr Phe
                805                      810                      815
Gly Asp Ala Lys Asn Arg Tyr Gln Arg Leu Tyr Val Lys Phe Leu Glu
            820                      825                      830
Asn Val Asn Lys Lys Asp Tyr Val Arg Val Cys Ala Arg Lys Pro Trp
        835                      840                      845
His Arg Pro Pro Val Pro Val Arg Arg Ser Gly Gln Ala Lys Asn Pro
        850                      855                      860
Val Ser Ala Gly Gly Ser Ser Ala Pro Pro Pro Lys Ala Pro Ala Pro
865                      870                      875                      880
Pro Pro Lys Pro Glu Thr Pro Glu Lys Thr Thr Ser Glu Lys Pro Pro
                885                      890                      895
Ala Ala Asp Ser
                900
```

```
<400> 4171
nngcaggcct tctggtgatc gccagcgctg tcgtctctga gcgtggatcc cagaacctgg
60
acagctgtgg cggccgccgt ttcccggtcc cgtccagacg ctgtctggcg agatcggacg
120
gtgagcctaa ggcggaacgc gtgaggcgct tttgagtctg gggtccgggg ccgagagcag
180
gcggaaagag aggggacccg gcagaccccg agtggccgcc gctgcggggc ccaagtcctt
240
ggctgctgag tggtgacagt agcccagccc gccggccaga tatggtccag acctgtacat
300
gaataacttt ggttagtcag agtgaaatat tcaataatga gtggtgcagc tttgggactt
360
gagattgttt ttgtcttttt tctggcatta tttctgcttc atcgatatgg agactttaag
420
aaacagcata gacttgtgat tattggaaca ctgcttgctt ggtatctctg ctttcttatt
480
gtcttcatac tgcctctgga tgttagtacg acaatataca accggtgcaa gcatgctgct
540
caaattcaag ccctcctgag aatagcaaca ttacaggatt gtgcaactgc taaccctgtt
600
ccaagccagc atccttgttt caagccatgg agttacattc ctgatggaat catgccaatt
660
ttctggaggg tagtgtattg gacgtcacaa tttttaacat ggattctctt accttttatg
720
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cagtcatatg caagatcagg agggtttcc atcactggaa agatcaaaac tgcactaatt
780

gagaatgcaa tctactatgg cacctatttg ctgattttg gagcattttt aatttatgta
840

gctgtaaacc cacatttaca tttagaatgg aaccagcttc agacaattg
889

<210> 4172
<211> 184
<212> PRT
<213> Homo sapiens

<400> 4172
Met Ser Gly Ala Ala Leu Gly Leu Glu Ile Val Phe Val Phe Phe Leu
 1   5   10   15
Ala Leu Phe Leu Leu His Arg Tyr Gly Asp Phe Lys Lys Gln His Arg
             20   25   30
Leu Val Ile Ile Gly Thr Leu Leu Ala Trp Tyr Leu Cys Phe Leu Ile
         35   40   45
Val Phe Ile Leu Pro Leu Asp Val Ser Thr Thr Ile Tyr Asn Arg Cys
     50   55   60
Lys His Ala Ala Gln Ile Gln Ala Leu Leu Arg Ile Ala Thr Leu Gln
65   70   75   80
Asp Cys Ala Thr Ala Asn Pro Val Pro Ser Gln His Pro Cys Phe Lys
                 85   90   95
Pro Trp Ser Tyr Ile Pro Asp Gly Ile Met Pro Ile Phe Trp Arg Val
                100   105   110
Val Tyr Trp Thr Ser Gln Phe Leu Thr Trp Ile Leu Leu Pro Phe Met
             115   120   125
Gln Ser Tyr Ala Arg Ser Gly Gly Phe Ser Ile Thr Gly Lys Ile Lys
         130   135   140
Thr Ala Leu Ile Glu Asn Ala Ile Tyr Tyr Gly Thr Tyr Leu Leu Ile
145   150   155   160
Phe Gly Ala Phe Leu Ile Tyr Val Ala Val Asn Pro His Leu His Leu
                165   170   175
Glu Trp Asn Gln Leu Gln Thr Ile
                180

<210> 4173
<211> 404
<212> DNA
<213> Homo sapiens

<400> 4173
tgatcatctc ccaaaggctt cactccaaat atcatcacat tgcggattac agattcaaca
60

taggaatttg gggggacaca gacattcagt ccatagtagc aagcttaagg tttctggggt
120

ctagagacaa aatgttccga ttagtgtgct tcagtttcat catgagattt aatagtaata
180

actacgttat ggaatggttt gagaatttaa tgagtaacct ggagctgggc acccctgtgt
240

caaagtgcgc tagggcactg ggttcggcta aaggcccatt gctatgctgc tgcgtgcagg
300

catggcatct acaagatgga gactctttcc tgacacacga ccattactac atgctaaatg
360
acctcccaga ctctagctcg cctgtggctg ccacctttat gttt
404

<210> 4174
<211> 91
<212> PRT
<213> Homo sapiens

<400> 4174
Met Phe Arg Leu Val Cys Phe Ser Phe Ile Met Arg Phe Asn Ser Asn
1   5   10   15
Asn Tyr Val Met Glu Trp Phe Glu Asn Leu Met Ser Asn Leu Glu Leu
            20   25   30
Gly Thr Pro Val Ser Lys Cys Ala Arg Ala Leu Gly Ser Ala Lys Gly
        35   40   45
Pro Leu Leu Cys Cys Cys Val Gln Ala Trp His Leu Gln Asp Gly Asp
    50   55   60
Ser Phe Leu Thr His Asp His Tyr Tyr Met Leu Asn Asp Leu Pro Asp
65   70   75   80
Ser Ser Ser Pro Val Ala Ala Thr Phe Met Phe
                85   90

<210> 4175
<211> 2778
<212> DNA
<213> Homo sapiens

<400> 4175
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180
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240
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420
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480
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540
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600
gactactttg aagaccttaa aaagtactgt ttccacagga gcgtgaacag ggagacaaag
660
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720

3362

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1380
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1440
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1680
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1800
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1860
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1920
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1980
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2040
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2220
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2280
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2340
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2460
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2580
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<210> 4176
<211> 586
<212> PRT
<213> Homo sapiens
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<400> 4176
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             20                  25                  30
Ala Gly Leu Arg Ala Ala Met Gly Pro Gly Ile Ser Arg Met Asn Asp
         35                  40                  45
Leu Thr Ile Ile Gln Thr Thr Gln Gly Phe Cys Arg Tyr Leu Glu Lys
     50                  55                  60
Gln Phe Ser Asp Leu Lys Gln Lys Gly Ile Val Ile Ser Phe Asp Ala
65                  70                  75                  80
Arg Ala His Pro Ser Ser Gly Gly Ser Ser Arg Arg Phe Ala Arg Leu
             85                  90                  95
Ala Ala Thr Thr Phe Ile Ser Gln Gly Ile Pro Val Tyr Leu Phe Ser
            100                 105                 110
Asp Ile Thr Pro Thr Pro Phe Val Pro Phe Thr Val Ser His Leu Lys
            115                 120                 125
Leu Cys Ala Gly Ile Met Ile Thr Ala Ser His Asn Pro Lys Gln Asp
        130                 135                 140
Asn Gly Tyr Lys Val Tyr Trp Asp Asn Gly Ala Gln Ile Ile Ser Pro
145                 150                 155                 160
His Asp Lys Gly Ile Ser Gln Ala Ile Glu Glu Asn Leu Glu Pro Trp
                165                 170                 175
Pro Gln Ala Trp Asp Asp Ser Leu Ile Asp Ser Ser Pro Leu Leu His
            180                 185                 190
Asn Pro Ser Ala Ser Ile Asn Asn Asp Tyr Phe Glu Asp Leu Lys Lys
            195                 200                 205
Tyr Cys Phe His Arg Ser Val Asn Arg Glu Thr Lys Val Lys Phe Val
    210                 215                 220
His Thr Ser Val His Gly Val Gly His Ser Phe Val Gln Ser Ala Phe
225                 230                 235                 240
Lys Ala Phe Xaa Pro Cys Ser Ser Xaa Glu Ala Val Pro Glu Gln Lys
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                        245                    250                    255
Asp Pro Asp Pro Glu Phe Pro Thr Val Lys Tyr Pro Asn Pro Glu Glu
            260                    265                    270
Gly Lys Gly Val Leu Thr Leu Ser Phe Ala Leu Ala Asp Lys Thr Lys
            275                    280                    285
Ala Arg Ile Val Leu Ala Asn Asp Pro Asp Ala Asp Arg Leu Ala Val
    290                    295                    300
Ala Glu Lys Gln Asp Ser Gly Glu Trp Arg Val Phe Ser Gly Asn Glu
305                    310                    315                    320
Leu Gly Ala Leu Leu Gly Trp Trp Leu Phe Thr Ser Trp Lys Glu Lys
                325                    330                    335
Asn Gln Asp Arg Ser Ala Leu Lys Asp Thr Tyr Met Leu Ser Ser Thr
                340                    345                    350
Val Ser Ser Lys Ile Leu Arg Ala Ile Ala Leu Lys Glu Gly Phe His
            355                    360                    365
Phe Glu Glu Thr Leu Thr Gly Phe Lys Trp Met Gly Asn Arg Ala Lys
    370                    375                    380
Gln Leu Ile Asp Gln Gly Lys Thr Val Leu Phe Ala Phe Glu Glu Ala
385                    390                    395                    400
Ile Gly Tyr Met Cys Cys Pro Phe Val Leu Asp Lys Asp Gly Val Ser
                405                    410                    415
Ala Ala Val Ile Ser Ala Glu Leu Ala Ser Phe Leu Ala Thr Lys Asn
            420                    425                    430
Leu Ser Leu Ser Gln Gln Leu Lys Ala Ile Tyr Val Glu Tyr Gly Tyr
            435                    440                    445
His Ile Thr Lys Ala Ser Tyr Phe Ile Cys His Asp Gln Glu Thr Ile
    450                    455                    460
Lys Lys Leu Phe Glu Asn Leu Arg Asn Tyr Asp Gly Lys Asn Asn Tyr
465                    470                    475                    480
Pro Lys Ala Cys Gly Lys Phe Glu Ile Ser Ala Ile Arg Asp Leu Thr
                485                    490                    495
Thr Gly Tyr Asp Asp Ser Gln Pro Asp Lys Lys Ala Val Leu Pro Thr
            500                    505                    510
Ser Lys Ser Ser Gln Met Ile Thr Phe Thr Phe Ala Asn Gly Gly Val
            515                    520                    525
Ala Thr Met Arg Thr Ser Gly Thr Glu Pro Lys Ile Lys Tyr Tyr Ala
    530                    535                    540
Glu Leu Cys Ala Pro Pro Gly Asn Ser Asp Pro Glu Gln Leu Lys Lys
545                    550                    555                    560
Glu Leu Asn Glu Leu Val Ser Ala Ile Glu Glu His Phe Phe Gln Pro
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Gln Lys Tyr Asn Leu Gln Pro Lys Ala Asp
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<210> 4177
<211> 4763
<212> DNA
<213> Homo sapiens

<400> 4177
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120

3365

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300
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720
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900
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960
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1020
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1740
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3360
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3367

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4620
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4763


<210> 4178
<211> 398
<212> PRT
<213> Homo sapiens
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<400> 4178

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            20                  25                  30
Ala Ala His Leu Asp Asn Gln Val Pro Val Glu Ser Pro Arg Ala Ile
            35                  40                  45
Ser Arg Thr Asn Glu Asn Asp Pro Ala Lys His Gly Asp Gln His Glu
        50                  55                  60
Gly Gln His Tyr Asn Ile Ser Pro Gln Asp Leu Glu Thr Val Phe Pro
65                  70                  75                  80
His Gly Leu Pro Pro Arg Phe Val Met Gln Val Lys Thr Phe Ser Glu
                85                  90                  95
Ala Cys Leu Met Val Arg Lys Pro Ala Leu Glu Leu Leu His Tyr Leu
            100                 105                 110
Lys Asn Thr Ser Phe Ala Tyr Pro Ala Ile Arg Tyr Leu Leu Tyr Gly
        115                 120                 125
Glu Lys Gly Thr Gly Lys Thr Leu Ser Leu Cys His Val Phe His Phe
    130                 135                 140
Cys Ala Lys Gln Asp Trp Leu Ile Leu His Ile Pro Asp Ala His Leu
145                 150                 155                 160
Trp Val Lys Asn Cys Arg Asp Leu Leu Gln Ser Ser Tyr Asn Lys Gln
                165                 170                 175
Arg Phe Asp Gln Pro Leu Glu Ala Ser Thr Trp Leu Lys Asn Phe Lys
            180                 185                 190
Thr Thr Asn Glu Arg Phe Leu Asn Gln Ile Lys Val Gln Glu Lys Tyr
        195                 200                 205
Val Trp Asn Lys Arg Glu Leu Thr Glu Lys Gly Ser Pro Leu Gly Glu
    210                 215                 220
Val Val Glu Gln Gly Ile Thr Arg Val Arg Asn Ala Thr Asp Ala Val
225                 230                 235                 240
Gly Ile Val Leu Lys Glu Leu Lys Arg Gln Ser Ser Leu Gly Met Phe
                245                 250                 255
His Leu Leu Val Ala Val Asp Gly Ile Asn Ala Leu Trp Gly Arg Thr
            260                 265                 270
Thr Leu Lys Arg Glu Asp Lys Ser Pro Ile Ala Pro Glu Glu Leu Ala
        275                 280                 285
Leu Val His Asn Leu Arg Lys Met Met Lys Asn Asp Trp His Gly Gly
    290                 295                 300
Ala Ile Val Ser Ala Leu Ser Gln Thr Gly Ser Leu Phe Lys Pro Arg
305                 310                 315                 320
Lys Ala Tyr Leu Pro Gln Glu Leu Leu Gly Lys Glu Gly Phe Asp Ala
            325                 330                 335
Leu Asp Pro Phe Ile Pro Ile Leu Val Ser Asn Tyr Asn Pro Lys Glu
            340                 345                 350
Phe Glu Ser Cys Ile Gln Tyr Tyr Leu Glu Asn Asn Trp Leu Gln His
    355                 360                 365
Glu Lys Ala Pro Thr Glu Glu Gly Lys Lys Glu Leu Leu Phe Leu Ser
    370                 375                 380
Asn Ala Asn Pro Ser Leu Leu Glu Arg His Cys Ala Tyr Leu
385                 390                 395
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<210> 4179
<211> 2208

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<212> DNA
<213> Homo sapiens

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120
ggcacccatt aaagactcaa cagtcaaaat gagacaaatc agtcctttag acgttcacag
180
acaattgaaa ggcactttaa aaatccactt tttaaactac cacttgagaa cacatggtag
240
cacagtctta aattcatcct agttgatcgg gaatgatgaa tgagtgttgg caccagaaaa
300
tcctgcttgc agaagggggc gcaggtgtcg gtccacggga cagccactgg ccaggctagc
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420
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480
tgacacattt catggtttgg aggacagaag taggtttcca catcacatga aaaggacagt
540
gtcacagtgg ggttacccag taaacagcta ccaaagccat catttcacgc ttccctgtag
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660
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720
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1380
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1440
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1500
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1560
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gcacggcgtg caccgaggaa accagcctgg tgctgatcat cacgcagtcg gtgcggctcc
2100
atccgggctg ggagcggcgc agcgcccagg tgcagagcgc gaagagcccc gggaagaaga
2160
gcgcgccccc ggccagcgtc agcagcatcg gggctgcggg tccggccg
2208
```

<210> 4180
<211> 257
<212> PRT
<213> Homo sapiens

<400> 4180

```
Met Leu Leu Thr Leu Ala Gly Gly Ala Leu Phe Phe Pro Gly Leu Phe
 1           5                  10                 15
Ala Leu Cys Thr Trp Ala Leu Arg Arg Ser Gln Pro Gly Trp Ser Arg
            20                 25                 30
Thr Asp Cys Val Met Ile Ser Thr Arg Leu Val Ser Ser Val His Ala
            35                 40                 45
Val Leu Ala Thr Gly Ser Gly Ile Val Ile Arg Ser Cys Asp Asp
       50                 55                 60
Val Ile Thr Gly Arg His Trp Leu Ala Arg Glu Tyr Val Trp Phe Leu
65                 70                 75                 80
Ile Pro Tyr Met Ile Tyr Asp Ser Tyr Ala Met Tyr Leu Cys Glu Trp
                85                 90                 95
Cys Arg Thr Arg Asp Gln Asn Arg Ala Pro Ser Leu Thr Leu Arg Asn
            100                1^5                110
Phe Leu Ser Arg Asn Arg Leu Met Ile Thr His His Ala Val Ile Leu
            115                120                125
Phe Val Leu Val Pro Val Ala Gln Arg Leu Arg Gly Asp Leu Gly Asp
       130                135                140
Phe Phe Val Gly Cys Ile Phe Thr Ala Glu Leu Ser Thr Pro Phe Val
145                150                155                160
Ser Leu Gly Arg Val Leu Ile Gln Leu Lys Gln Gln His Thr Leu Leu
            165                170                175
Tyr Lys Val Asn Gly Ile Leu Thr Leu Ala Thr Phe Leu Ser Cys Arg
```

```
            180                 185                 190
Ile Leu Leu Phe Pro Phe Met Tyr Trp Ser Tyr Gly Arg Gln Gln Gly
        195                 200                 205
Leu Ser Leu Leu Gln Val Pro Phe Ser Ile Pro Phe Tyr Cys Asn Val
        210                 215                 220
Ala Asn Ala Phe Leu Val Ala Pro Gln Ile Tyr Trp Phe Cys Leu Leu
225                 230                 235                 240
Cys Arg Lys Ala Val Arg Leu Phe Asp Thr Pro Gln Ala Lys Lys Asp
                245                 250                 255
Gly
```

<210> 4181
<211> 735
<212> DNA
<213> Homo sapiens

<400> 4181
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nagtccggcc ttgttgtcac gcgtgcattt gggtggctgc atgggcacac gcctgtgagg
60
ccagggccgg ccgggtcttc ggttctctgg cttggctcag gcagcagttc ctgcagactt
120
ttctcactgc tgttcagcaa tatgtctcct ttaaaatagc acccggcggg gatagagttc
180
tctctgtgtc tgctgtttgc caagctggtc agttacacct tcctctactg gctgcccctg
240
tacatcgcca atgtggctca ctttagtgcc aaggaggctg gggacctgtc tacactcttc
300
gatgttggtg gcatcatagg cggcatcgtg gcagggctcg tctctgacta caccaatggc
360
agggccacca cttgctgtgt catgctcatc ttggctgccc ccatgatgtt cctgtacaac
420
tacattggcc aggacgggat tgccagctcc atagtgatgc tgatcatctg tggggggcctg
480
gtcaatggcc catacgccnt catcaccact gctgtctctg ctgacctggg gactcacaag
540
agcctgaagg gcaacgccaa agccctgtcc acggtcacgg ccatcattga cggcaccggc
600
tccataggtg cggctctggg gcctctgctg ctgggctca tctcccccac gggctggaac
660
aatgtcttct acatgctcat ctctgccgac gtcctagcct gcttgctcct ttgccggtta
720
gtatacaaag agatc
735
```

<210> 4182
<211> 192
<212> PRT
<213> Homo sapiens

<400> 4182
```
His Pro Ala Gly Ile Glu Phe Ser Leu Cys Leu Leu Phe Ala Lys Leu
1               5                   10                  15
Val Ser Tyr Thr Phe Leu Tyr Trp Leu Pro Leu Tyr Ile Ala Asn Val
```

```
              20                    25                    30
Ala His Phe Ser Ala Lys Glu Ala Gly Asp Leu Ser Thr Leu Phe Asp
         35                    40                    45
Val Gly Gly Ile Ile Gly Gly Ile Val Ala Gly Leu Val Ser Asp Tyr
     50                    55                    60
Thr Asn Gly Arg Ala Thr Thr Cys Cys Val Met Leu Ile Leu Ala Ala
65                    70                    75                    80
Pro Met Met Phe Leu Tyr Asn Tyr Ile Gly Gln Asp Gly Ile Ala Ser
             85                    90                    95
Ser Ile Val Met Leu Ile Ile Cys Gly Gly Leu Val Asn Gly Pro Tyr
            100                   105                   110
Ala Xaa Ile Thr Thr Ala Val Ser Ala Asp Leu Gly Thr His Lys Ser
            115                   120                   125
Leu Lys Gly Asn Ala Lys Ala Leu Ser Thr Val Thr Ala Ile Ile Asp
        130                   135                   140
Gly Thr Gly Ser Ile Gly Ala Ala Leu Gly Pro Leu Leu Ala Gly Leu
145                   150                   155                   160
Ile Ser Pro Thr Gly Trp Asn Asn Val Phe Tyr Met Leu Ile Ser Ala
            165                   170                   175
Asp Val Leu Ala Cys Leu Leu Leu Cys Arg Leu Val Tyr Lys Glu Ile
            180                   185                   190
```

<210> 4183
<211> 1129
<212> DNA
<213> Homo sapiens

<400> 4183
```
ttttttttt ttcaaaggct tatctttatc ttgaacttct tttgagaagc gctccctttc
60
aatagctgat tctctctcta ttcgctcaat ttcagccaat gcatccaatt ccacttcatc
120
atatataggt ccctgttgtg atatctgttg ttgattctgt accacagaag tctggggttg
180
ttttgtagca actgaagtgt tctgttgtaa aacaggcact tgatttgctg gaaggaatgc
240
tgtttgttct tgctgcgaca aacattgagc agcattaagt gggcggttta cgtcctgtgg
300
agtaatgggt gtttttgaag tctgtccttg atactgcaca ttaaaaggaa tatcattttc
360
tgaaacattg ctattttcca taccagatag catatcctct tgctggtcca tatccgaaga
420
ccttacacga gaaagtctta atgtaagttt agtagagtcc ttggatggag aactaattat
480
atcatacatt gccgctttct cactctgctc tttttcatcc ttgcctaatt tcattttctt
540
ctgcttcttt tgttttcttt ctggagaatc tagcaagata tctggtggaa catctcgagg
600
tgatgaacaa ggtagagact gagattgtag gattaaaggt ggtcttgagc ctttaggagt
660
tccttcactt ccagcagggg agcatactgg ctgtggagat ctcaagggaa aagatgcagc
720
attcctcatt gttgaagaat ctccatcgtc actacttagc ctgtgcacca tgtgtaggta
780
```

gtcctcactt gaaccatgtc taggattatc agcatgatga ttagctgaat tgccagacaa
840
cggaccagaa actttattat catgtatgtt tctcaaacca cctgcaacaa tgggacttga
900
taccgatgct tgttgcatct gtggatgtgt tgtgtaactt gaaggatggg aatatggcat
960
gtatcctgca gggctttgtg gggcgtatgg actaggcact gggctatttt gctgtggcat
1020
aaatctgttc ccagagcttg tctgtggtgg cacaaaccgg ctggaggggc tatgtgagat
1080
agtggtttgt tgataattgg aagatgcagg actactgtgc atggaattc
1129

<210> 4184
<211> 374
<212> PRT
<213> Homo sapiens

<400> 4184
Met His Ser Ser Pro Ala Ser Ser Asn Tyr Gln Gln Thr Thr Ile Ser
1   5   10   15
His Ser Pro Ser Ser Arg Phe Val Pro Pro Gln Thr Ser Ser Gly Asn
            20   25   30
Arg Phe Met Pro Gln Gln Asn Ser Pro Val Pro Ser Pro Tyr Ala Pro
        35   40   45
Gln Ser Pro Ala Gly Tyr Met Pro Tyr Ser His Pro Ser Ser Tyr Thr
    50   55   60
Thr His Pro Gln Met Gln Gln Ala Ser Val Ser Ser Pro Ile Val Ala
65   70   75   80
Gly Gly Leu Arg Asn Ile His Asp Asn Lys Val Ser Gly Pro Leu Ser
                85   90   95
Gly Asn Ser Ala Asn His His Ala Asp Asn Pro Arg His Gly Ser Ser
            100   105   110
Glu Asp Tyr Leu His Met Val His Arg Leu Ser Ser Asp Asp Gly Asp
            115   120   125
Ser Ser Thr Met Arg Asn Ala Ala Ser Phe Pro Leu Arg Ser Pro Gln
    130   135   140
Pro Val Cys Ser Pro Ala Gly Ser Glu Gly Thr Pro Lys Gly Ser Arg
145   150   155   160
Pro Pro Leu Ile Leu Gln Ser Gln Ser Leu Pro Cys Ser Ser Pro Arg
                165   170   175
Asp Val Pro Pro Asp Ile Leu Leu Asp Ser Pro Glu Arg Lys Gln Lys
            180   185   190
Lys Gln Lys Lys Met Lys Leu Gly Lys Asp Glu Lys Glu Gln Ser Glu
            195   200   205
Lys Ala Ala Met Tyr Asp Ile Ile Ser Ser Pro Ser Lys Asp Ser Thr
    210   215   220
Lys Leu Thr Leu Arg Leu Ser Arg Val Arg Ser Ser Asp Met Asp Gln
225   230   235   240
Gln Glu Asp Met Leu Ser Gly Met Glu Asn Ser Asn Val Ser Glu Asn
                245   250   255
Asp Ile Pro Phe Asn Val Gln Tyr Gln Gly Gln Thr Ser Lys Thr Pro
            260   265   270
Ile Thr Pro Gln Asp Val Asn Arg Pro Leu Asn Ala Ala Gln Cys Leu

3374

```
         275                280                285
Ser Gln Gln Glu Gln Thr Ala Phe Leu Pro Ala Asn Gln Val Pro Val
    290                295                300
Leu Gln Gln Asn Thr Ser Val Ala Thr Lys Gln Pro Gln Thr Ser Val
305                310                315                320
Val Gln Asn Gln Gln Gln Ile Ser Gln Gln Gly Pro Ile Tyr Asp Glu
            325                330                335
Val Glu Leu Asp Ala Leu Ala Glu Ile Glu Arg Ile Glu Arg Glu Ser
            340                345                350
Ala Ile Glu Arg Glu Arg Phe Ser Lys Glu Val Gln Asp Lys Asp Lys
        355                360                365
Pro Leu Lys Lys Lys Lys
    370
```

<210> 4185
<211> 1481
<212> DNA
<213> Homo sapiens

<400> 4185
```
ntggtgttta agagtttgga caaaaagaat gatggacgca ttgacgcgca ggagatcatg
60
cagtccctgc gggacttggg agtcaagata tctgaacagc aggcagaaaa aattctcaag
120
agcatggata aaaacggcac gatgaccatc gactggaacg agtggagaga ctaccacctc
180
ctccaccccg tggaaaacat ccccgagatc atcctctact ggaagcattc cacgatcttt
240
gatgtgggtg agaatctaac ggtcccggat gagttcacag tggaggagag gcagacgggg
300
atgtggtgga gacacctggt ggcaggaggt ggggcagggg ccgtatccag aacctgcacg
360
gccccctgg acaggctcaa ggtgctcatg caggtccatg cctcccgcag caacaacatg
420
ggcatcgttg gtggcttcac tcagatgatt cgagaaggag gggccaggtc actctggcgg
480
ggcaatggca tcaacgtcct caaaattgcc cccgaatcag ccatcaaatt catggcctat
540
gagcagatca gcgccttgt tggtagtgac caggagactc tgaggattca cgagaggctt
600
gtggcagggt ccttggcagg ggccatcgcc cagagcagca tctacccaat ggaggtcctg
660
aagacccgga tggcgctgcg gaagacaggc cagtactcag gaatgctgga ctgcgccagg
720
aggatcctgg ccagagaggg ggtggccgcc ttctacaaag gctatgtccc caacatgctg
780
ggcatcatcc cctatgccgg catcgacctt gcagtctacg agacgctcaa gaatgcctgg
840
ctgcagcact atgcagtgaa cagcgcggac cccggcgtgt tgtgctcct ggcctgtggc
900
accatgtcca gtacctgtgg ccagctggcc agctaccccc tggccctagt caggacccgg
960
atgcaggcgc aagcctctat tgagggcgct ccggaggtga ccatgagcag cctcttcaaa
1020
```

```
catatcctgc ggaccgaggg ggccttcggg ctgtacaggg ggctggcccc caacttcatg
1080
aaggtcatcc cagctgtgag catcagctac gtggtctacg agaacctgaa gatcaccctg
1140
ggcgtgcagt cgcggtgacg gggggagggc cgcccggcag tggactcgct gatcctgggc
1200
cgcagcctgg ggtgtgcagc catctcattc tgtgaatgtg ccaacactaa gctgtctcga
1260
gccaagctgt gaaaaccct a gacgcacccg cagggagggt ggggagagct ggcaggccca
1320
gggcttgtcc tgctgacccc agcagaccct cctgttggtt ccagcgaaga ccacaggcat
1380
tccttagggt ccagggtcag caggctccgg gctcacatgt gtaaggacag gacattttct
1440
gcagtgcctg ccaatagtga gcttggagcc tggaggccgg c
1481
```

<210> 4186
<211> 385
<212> PRT
<213> Homo sapiens

<400> 4186

```
Xaa Val Phe Lys Ser Leu Asp Lys Lys Asn Asp Gly Arg Ile Asp Ala
1               5                   10                  15
Gln Glu Ile Met Gln Ser Leu Arg Asp Leu Gly Val Lys Ile Ser Glu
                20                  25                  30
Gln Gln Ala Glu Lys Ile Leu Lys Ser Met Asp Lys Asn Gly Thr Met
            35                  40                  45
Thr Ile Asp Trp Asn Glu Trp Arg Asp Tyr His Leu Leu His Pro Val
        50                  55                  60
Glu Asn Ile Pro Glu Ile Ile Leu Tyr Trp Lys His Ser Thr Ile Phe
65                  70                  75                  80
Asp Val Gly Glu Asn Leu Thr Val Pro Asp Glu Phe Thr Val Glu Glu
                85                  90                  95
Arg Gln Thr Gly Met Trp Trp Arg His Leu Val Ala Gly Gly Gly Ala
            100                 105                 110
Gly Ala Val Ser Arg Thr Cys Thr Ala Pro Leu Asp Arg Leu Lys Val
        115                 120                 125
Leu Met Gln Val His Ala Ser Arg Ser Asn Asn Met Gly Ile Val Gly
    130                 135                 140
Gly Phe Thr Gln Met Ile Arg Glu Gly Gly Ala Arg Ser Leu Trp Arg
145                 150                 155                 160
Gly Asn Gly Ile Asn Val Leu Lys Ile Ala Pro Glu Ser Ala Ile Lys
                165                 170                 175
Phe Met Ala Tyr Glu Gln Ile Lys Arg Leu Val Gly Ser Asp Gln Glu
            180                 185                 190
Thr Leu Arg Ile His Glu Arg Leu Val Ala Gly Ser Leu Ala Gly Ala
        195                 200                 205
Ile Ala Gln Ser Ser Ile Tyr Pro Met Glu Val Leu Lys Thr Arg Met
    210                 215                 220
Ala Leu Arg Lys Thr Gly Gln Tyr Ser Gly Met Leu Asp Cys Ala Arg
225                 230                 235                 240
Arg Ile Leu Ala Arg Glu Gly Val Ala Ala Phe Tyr Lys Gly Tyr Val
```

```
                    245                     250                     255
Pro Asn Met Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val
            260                     265                     270
Tyr Glu Thr Leu Lys Asn Ala Trp Leu Gln His Tyr Ala Val Asn Ser
        275                     280                     285
Ala Asp Pro Gly Val Phe Val Leu Leu Ala Cys Gly Thr Met Ser Ser
        290                     295                     300
Thr Cys Gly Gln Leu Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg
305                     310                     315                     320
Met Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser
                325                     330                     335
Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu Tyr
            340                     345                     350
Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val Ser Ile
            355                     360                     365
Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly Val Gln Ser
        370                     375                     380
Arg
385


<210> 4187
<211> 1087
<212> DNA
<213> Homo sapiens

<400> 4187
ntggccattg accgagcctg cccagaaagc gcttctctcc ttggtcaccc tcgagtcctg
60
gctgattctt ttcctgacag ttccccttat gagggttaca actatggctc ctttgagaat
120
gtttctggat ctaccgatgg tctggttgac agcgctggca ctggggacct ctcttacggt
180
taccagggcc gctcctttga acctgtaggt actcggcccc gagtggactc catgagctct
240
gtggaggagg atgactacga cacattgacc gacatcgatt ccgacaagaa tgtcattcgc
300
accaagcaat acctctatgt ggctgacctg gcacggaagg acaagcgtgt tctgcggaaa
360
aagtaccaga tctacttctg gaacattgcc accattgctg tcttctatgc ccttcctgtg
420
gtgcagctgg tgatcaccta cccagaggnn ggnggatgta cnaggggatc nagggacatc
480
tgctcntcna acttcctctg cgcccaccca ctgggcaatc tcagcgcctt caacaacatc
540
ctcagcaacc tggggtacat cctgctgggg ctgcttttcc tgctcatcat cctgcaacgg
600
gagatcaacc acaaccgggc cctgctgcgc aatgacctct gtgccctgga atgtgggatc
660
cccaaacact ttgggctttt ctacgccatg ggcacagccc tgatgatgga ggggctgctc
720
agtgcttgct atcatgtgtg ccccaactat accaatttcc agtttggtga gtggggcgtc
780
cttcttttct ggctcaacct acagcaggga cctgcctgag tccttcacta tccccaagtc
840
```

```
acccacaggg atcgctaaga cacccctgta ggaaactcca aggctggcgt gcctgggtgt
900
gcacacatcc tagcctatgg aacatgggca cctagatgct gcttcattca tctgtcaagc
960
tattcctatg taaaggcatg tgccgcagtg aagaaaacag tataattaag aaggggtccc
1020
tggccgggtg cagtggctca cgcctgtaat cccagcactt tgggaggcag aggcgggtgg
1080
atcatga
1087
```

<210> 4188
<211> 272
<212> PRT
<213> Homo sapiens

<400> 4188

```
Xaa Ala Ile Asp Arg Ala Cys Pro Glu Ser Ala Ser Leu Leu Gly His
 1               5                  10                  15
Pro Arg Val Leu Ala Asp Ser Phe Pro Asp Ser Ser Pro Tyr Glu Gly
            20                  25                  30
Tyr Asn Tyr Gly Ser Phe Glu Asn Val Ser Gly Ser Thr Asp Gly Leu
        35                  40                  45
Val Asp Ser Ala Gly Thr Gly Asp Leu Ser Tyr Gly Tyr Gln Gly Arg
    50                  55                  60
Ser Phe Glu Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser
65                  70                  75                  80
Val Glu Glu Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys
                85                  90                  95
Asn Val Ile Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala Arg
            100                 105                 110
Lys Asp Lys Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe Trp Asn
        115                 120                 125
Ile Ala Thr Ile Ala Val Phe Tyr Ala Leu Pro Val Val Gln Leu Val
    130                 135                 140
Ile Thr Tyr Pro Glu Xaa Gly Gly Cys Thr Arg Gly Ser Arg Asp Ile
145                 150                 155                 160
Cys Ser Ser Asn Phe Leu Cys Ala His Pro Leu Gly Asn Leu Ser Ala
                165                 170                 175
Phe Asn Asn Ile Leu Ser Asn Leu Gly Tyr Ile Leu Leu Gly Leu Leu
            180                 185                 190
Phe Leu Leu Ile Ile Leu Gln Arg Glu Ile Asn His Asn Arg Ala Leu
        195                 200                 205
Leu Arg Asn Asp Leu Cys Ala Leu Glu Cys Gly Ile Pro Lys His Phe
    210                 215                 220
Gly Leu Phe Tyr Ala Met Gly Thr Ala Leu Met Met Glu Gly Leu Leu
225                 230                 235                 240
Ser Ala Cys Tyr His Val Cys Pro Asn Tyr Thr Asn Phe Gln Phe Gly
                245                 250                 255
Glu Trp Gly Val Leu Leu Phe Trp Leu Asn Leu Gln Gln Gly Pro Ala
            260                 265                 270
```

<210> 4189
<211> 1570

<212> DNA
<213> Homo sapiens

<400> 4189
agatctattc gatcttttgc taatgatgat cgccatgtta tggtgaaaca ttcaacaatc
60
tatccatctc cggaggaact tgaagctgtt cagaatatgg tatctactgt tgaatgtgct
120
cttaaacatg tctcagattg gttggatgaa acaaataaag gcacaaaaac agagggtgag
180
acagaagtga agaaagatga ggccggagaa aactattcca aggatcaagg tggtcggaca
240
ttgtgtggtg taatgaggat tggcctggtt gcaaaaggct tgctgattaa agatgatatg
300
gacttggagc tggttttaat gtgcaaagac aaacccacag agaccctgtt aaatacagtc
360
aaagataatc ttcctattca gattcagaaa ctcacagaag agaaatatca agtggaacaa
420
tgtgtaaatg aggcatctat tataattcgg aatacaaaag agcccacgct aactttgaag
480
gtgatactta cctcacctct aattagggac gaattggaga agaaggatgg agaaaatgtt
540
tcgatgaaag atcctccgga cttattggac aggcagaaat gcctgaacgc cttggcgtct
600
cttcgacatg ccaaatggtt tcaggcaagg gcaaatggat taaaatcatg tgtaattgtc
660
ctccgcattc tgcgtgattt gtgcaacaga gtccccacat gggcaccatt gaaaggatgg
720
ccactagaac ttatatgtga aaagtctata ggtacttgta atagaccttt gggcgctggg
780
gaggccttga cgcgagtaat ggagtgtttg gcatctggaa tactacttcc tgggggtcct
840
ggtcttcatg atccttgtga gcgagaccca acagatgctc tgagctatat gaccatccag
900
caaaaagaag atattaccca cagtgcacag catgcactca gactatcagc ctttggtcag
960
atttacaaag tgctggagat ggaccccctt ccatctagta agccttttca gaagtattcc
1020
tggtcagtta ctgataaaga aggtgctggg tcttcagctc taaagaggcc atttgaagat
1080
ggattagggg atgataaaga ccccaacaag aagatgaaac gaaacttaag gaaaattctg
1140
gatagtaaag caatagacct tatgaatgca ctaatgaggc taaatcagat caggcctggg
1200
cttcagtata agctcctatc tcagtctggc ·ccgttcatg ccccagtctt cacaatgtct
1260
gtagatgtgg atggcacaac atatgaagcc tcaggaccat ccaagaaaac agcaaaactt
1320
cacgtagcgg tgaaggtatt gcaggcaatg ggatatccaa caggctttga tgcagatatt
1380
gaatgtatga gttccgatga aaaaagaaga ggtctcaagt atgaactcat ctcagagact
1440
ggtggaagcc atgacaagcg ctttgtaatg gaggtagaag tagatggaca gaaattcaga
1500

3379

ggcgcaggtc caaataagaa agtggcaaag gcgagtgcag ctttactcgc tnntggagaa
1560
actgttttct
1570

<210> 4190
<211> 523
<212> PRT
<213> Homo sapiens

<400> 4190
Arg Ser Ile Arg Ser Phe Ala Asn Asp Asp Arg His Val Met Val Lys
1   .5   10   15
His Ser Thr Ile Tyr Pro Ser Pro Glu Glu Leu Glu Ala Val Gln Asn
            20   25   30
Met Val Ser Thr Val Glu Cys Ala Leu Lys His Val Ser Asp Trp Leu
            35   40   45
Asp Glu Thr Asn Lys Gly Thr Lys Thr Glu Gly Glu Thr Glu Val Lys
      50   55   60
Lys Asp Glu Ala Gly Glu Asn Tyr Ser Lys Asp Gln Gly Gly Arg Thr
65   70   75   80
Leu Cys Gly Val Met Arg Ile Gly Leu Val Ala Lys Gly Leu Leu Ile
            85   90   95
Lys Asp Asp Met Asp Leu Glu Leu Val Leu Met Cys Lys Asp Lys Pro
            100   105   110
Thr Glu Thr Leu Leu Asn Thr Val Lys Asp Asn Leu Pro Ile Gln Ile
            115   120   125
Gln Lys Leu Thr Glu Glu Lys Tyr Gln Val Glu Gln Cys Val Asn Glu
      130   135   140
Ala Ser Ile Ile Ile Arg Asn Thr Lys Glu Pro Thr Leu Thr Leu Lys
145   150   155   160
Val Ile Leu Thr Ser Pro Leu Ile Arg Asp Glu Leu Glu Lys Lys Asp
            165   170   175
Gly Glu Asn Val Ser Met Lys Asp Pro Pro Asp Leu Leu Asp Arg Gln
            180   185   190
Lys Cys Leu Asn Ala Leu Ala Ser Leu Arg His Ala Lys Trp Phe Gln
            195   200   205
Ala Arg Ala Asn Gly Leu Lys Ser Cys Val Ile Val Leu Arg Ile Leu
      210   215   220
Arg Asp Leu Cys Asn Arg Val Pro Thr Trp Ala Pro Leu Lys Gly Trp
225   230   235   240
Pro Leu Glu Leu Ile Cys Glu Lys Ser Ile Gly Thr Cys Asn Arg Pro
            245   250   255
Leu Gly Ala Gly Glu Ala Leu Arg Arg Val Met Glu Cys Leu Ala Ser
            260   265   270
Gly Ile Leu Leu Pro Gly Gly Pro Gly Leu His Asp Pro Cys Glu Arg
            275   280   285
Asp Pro Thr Asp Ala Leu Ser Tyr Met Thr Ile Gln Gln Lys Glu Asp
      290   295   300
Ile Thr His Ser Ala Gln His Ala Leu Arg Leu Ser Ala Phe Gly Gln
305   310   315   320
Ile Tyr Lys Val Leu Glu Met Asp Pro Leu Pro Ser Ser Lys Pro Phe
            325   330   335
Gln Lys Tyr Ser Trp Ser Val Thr Asp Lys Glu Gly Ala Gly Ser Ser

3380

```
              340                    345                    350
Ala Leu Lys Arg Pro Phe Glu Asp Gly Leu Gly Asp Asp Lys Asp Pro
          355                    360                    365
Asn Lys Lys Met Lys Arg Asn Leu Arg Lys Ile Leu Asp Ser Lys Ala
      370                    375                    380
Ile Asp Leu Met Asn Ala Leu Met Arg Leu Asn Gln Ile Arg Pro Gly
385                    390                    395                    400
Leu Gln Tyr Lys Leu Leu Ser Gln Ser Gly Pro Val His Ala Pro Val
          405                    410                    415
Phe Thr Met Ser Val Asp Val Asp Gly Thr Thr Tyr Glu Ala Ser Gly
          420                    425                    430
Pro Ser Lys Lys Thr Ala Lys Leu His Val Ala Val Lys Val Leu Gln
          435                    440                    445
Ala Met Gly Tyr Pro Thr Gly Phe Asp Ala Asp Ile Glu Cys Met Ser
      450                    455                    460
Ser Asp Glu Lys Arg Arg Gly Leu Lys Tyr Glu Leu Ile Ser Glu Thr
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<213> Homo sapiens

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<212> PRT
<213> Homo sapiens


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Asp Ala Gln Val Gln Thr Glu Ala Pro Val Pro Val Ser Val Gln Pro
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Pro Ser Gln Tyr Asp Ile Pro Arg Leu Ala Ala Phe Leu Arg Arg Val
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Glu Ala Met Val Ile Arg Glu Leu Asn Lys Asn Trp Gln Ser His Ala
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Phe Asp Gly Phe Glu Val Asn Trp Thr Glu Gln Gln Gln Met Val Ser
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    Val Trp Asp Leu Ser Arg Leu Glu Asp Pro Leu Leu Trp Arg Thr Gly
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    Leu Thr Asp Asp Thr His Thr Asp Pro Val Ser Gln Val Val Trp Leu
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    Pro Glu Pro Gly His Ser His Arg Phe Gln Val Leu Ser Val Ala Thr
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    Asp Gly Lys Val Leu Leu Trp Gln Gly Ile Gly Val Gly Gln Leu Gln
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        450                      455                      460
    Pro Val Tyr Cys Leu Glu Phe Asn Ser Gln Gln Thr Gln Leu Leu Ala
    465                      470                      475                      480
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3383

<212> DNA
<213> Homo sapiens

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3385

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            35   40   45
Ser Asp Arg Val Val Ala Ser Asn Val Lys Val Glu Thr Gln Ser Asp
    50   55   60
Glu Glu Asn Gly Arg Ala Cys Glu Met Asn Gly Glu Glu Cys Ala Glu
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Pro Asn Gly Lys Leu Lys Cys Asp Ile Cys Gly Ile Ile Cys Ile Gly
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Pro Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg Pro
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      Glu Ser Asn Asn Glu Glu Gln Arg Ser Gly Leu Ile Tyr Leu Thr Asn
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      His Ile Ala Pro His Ala Arg Asn Gly Leu Ser Leu Lys Glu Glu His
                  420                    425                    430
      Arg Ala Tyr Asp Leu Leu Arg Ala Ala Ser Glu Asn Ser Gln Asp Ala
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      Leu Arg Val Val Ser Thr Ser Gly Glu Gln Met Lys Val Tyr Lys Cys
                  450                    455                    460
      Glu His Cys Arg Val Leu Phe Leu Asp His Val Met Tyr Thr Ile His
      465                    470                    475                    480
      Met Gly Cys His Gly Phe Arg Asp Pro Phe Glu Cys Asn Met Cys Gly
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<211> 1200
<212> DNA
<213> Homo sapiens

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<211> 318
<212> PRT
<213> Homo sapiens

<400> 4196
Xaa Gly Ser Leu Leu Ala Ala Val Trp Thr Asn Leu Ala Gln Pro Phe
 1   5   10   15
His Arg Arg Cys Ser Trp Ser Leu Leu Pro Ala Met Gly Leu Cys Thr
            20   25   30
Phe Ala Thr Leu Ala Leu Ile Leu Leu Val Leu Leu Glu Ala Leu Ala
        35   40   45
Gln Ala Asp Thr Gln Lys Met Val Glu Ala Gln Arg Gly Val Gly Pro
        50   55   60
Arg Ala Cys Tyr Ser Ile Trp Leu Leu Leu Ala Pro Thr Pro Pro Leu
65   70   75   80
Ser His Cys Leu Gln Ser Pro Gln Lys Gln His Gln Val Cys Gly Asp
                85   90   95
Arg Arg Leu Lys Ala Ser Ser Thr Asn Cys Pro Ser Glu Lys Cys Thr
            100   105   110
Ala Trp Ala Arg Tyr Ser His Arg Met Asp Ser Leu Gln Lys Gln Asp
        115   120   125
Leu Arg Arg Pro Lys Ile His Gly Ala Val Gln Ala Ser Pro Tyr Gln
        130   135   140
Pro Pro Thr Leu Ala Ser Leu Gln Arg Leu Leu Trp Val Arg Gln Ala
145   150   155   160
Ala Thr Leu Asn His Ile Asp Glu Val Trp Pro Ser Leu Phe Leu Gly
                165   170   175
Asp Ala Tyr Ala Ala Arg Asp Lys Ser Lys Leu Ile Gln Leu Gly Ile
            180   185   190
Thr His Val Val Asn Ala Ala Ala Gly Lys Phe Gln Val Asp Thr Gly
            195   200   205
Ala Lys Phe Tyr Arg Gly Met Ser Leu Glu Tyr Tyr Gly Ile Glu Ala
        210   215   220
Asp Asp Asn Pro Phe Phe Asp Leu Ser Val Tyr Phe Leu Pro Val Ala
225   230   235   240
Arg Tyr Ile Arg Ala Ala Leu Ser Val Pro Gln Gly Arg Val Leu Val

3390

```
                       245                 250                 255
His Cys Ala Met Gly Val Ser Arg Ser Ala Thr Leu Val Leu Ala Phe
            260                 265                 270
Leu Met Ile Tyr Glu Asn Met Thr Leu Val Glu Ala Ile Gln Thr Val
            275                 280                 285
Gln Ala His Arg Asn Ile Cys Pro Asn Ser Gly Phe Leu Arg Gln Leu
            290                 295                 300
Gln Val Leu Asp Asn Arg Leu Gly Arg Glu Thr Gly Arg Phe
305                 310                 315
```

<210> 4197
<211> 597
<212> DNA
<213> Homo sapiens

<400> 4197

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60
gcaagaaaca gcgcgtcagc tgccgaggcg cgttccatgg ccctgcccac ccaggcacag
120
gtggtcatct gtggaggtgg aatcacgggc acttctgtgg cccatcacca atccaaaatg
180
gggtggaagg atattgtcct tttggagcag ggcaggctgg ctgctggctc taccaggttc
240
tgtgctggca tcctgagcac tgccaggcac ttgaccattg agcagaagat ggcagactac
300
tcaaacaaac tctactatca gttagagcaa gaaacaggga tccaaacagg ttacacaagg
360
acaggctcaa tctttctggc ccaaactcag gaccgactga tctccctgaa gcgcatcaac
420
gcagggctga agtacgtaag agtctagaag cgtgtcctga ctttaccaca ctggcctctg
480
ccaaagagcc tgtgaatgtc attgtccctt gtgttctgtg gcagtgttat aggtatccct
540
tctgagatca tctccccaa gaaagtggcc gagcttcacc atctcctcaa cgtgcac
597
```

<210> 4198
<211> 148
<212> PRT
<213> Homo sapiens

<400> 4198

```
Arg Leu Leu Ser Ile Val Gly Arg Gln Arg Ala Ser Pro Gly Trp Gln
1                   5                   10                  15
Asn Trp Ser Ser Ala Arg Asn Ser Ala Ser Ala Ala Glu Ala Arg Ser
            20                  25                  30
Met Ala Leu Pro Thr Gln Ala Gln Val Val Ile Cys Gly Gly Gly Ile
            35                  40                  45
Thr Gly Thr Ser Val Ala His His Gln Ser Lys Met Gly Trp Lys Asp
        50                  55                  60
Ile Val Leu Leu Glu Gln Gly Arg Leu Ala Ala Gly Ser Thr Arg Phe
65                  70                  75                  80
Cys Ala Gly Ile Leu Ser Thr Ala Arg His Leu Thr Ile Glu Gln Lys
```

```
                        85                    90                    95
Met Ala Asp Tyr Ser Asn Lys Leu Tyr Tyr Gln Leu Glu Gln Glu Thr
                   100                  105              110
Gly Ile Gln Thr Gly Tyr Thr Arg Thr Gly Ser Ile Phe Leu Ala Gln
              115                  120              125
Thr Gln Asp Arg Leu Ile Ser Leu Lys Arg Ile Asn Ala Gly Leu Lys
      130                  135              140
Tyr Val Arg Val
145


<210> 4199
<211> 1769
<212> DNA
<213> Homo sapiens


<400> 4199
nnatccgctc ggcttcctgg gtctggctgc tgccgcccgc cggtgtccgc ccgtgtcgcg
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ccggggcacc aaggagccgt tggagggtcc gggcggaggc ccgctcgtgt ggaagtcgtc
120
gacgccgccg ctcgtccgtc ctcccgtccg ttctcgctcc cggccgccat catgctggcg
180
ctcatctccc gcctgctgga ctggttccgt tcgctcttct ggaaggaaga gatggagctg
240
acgctcgtgg ggctgcagta ctcgggcaag accaccttcg tcaatgtcat cgcgtcaggt
300
caattcagtg aagatatgat acccacagtg ggcttcaaca tgaggaaggt aactaaaggt
360
aacgtcacaa taaagatctg ggacatagga ggacaacccc gatttcgaag catgtgggag
420
cggtattgca gaggagtcaa tgctattgtt tacatgatag atgctgcaga tcgtgaaaag
480
atagaagctt cccgaaatga gctccacaac ctactggaca aaccacagtt acaaggaatt
540
ccagtgctag tgcttggaaa caagcgagac cttccgggag cattggatga gaaggagctg
600
attgagaaaa tgaatctgtc tgctattcag gatagagaaa tttgctgcta ttcaatttct
660
tgcaaagaaa aggataatat agatatcaca cttcagtggc ttattcagca ttcaaaatct
720
agaagaagct gaagcatctc ctgaagtctt ccagtccttc ttggctataa tcctagaatt
780
attgtccgtt cctctgaagt aattcccaga atacggtcct cctaaaccc cagaaattgc
840
ctttttcaga gtttatttct catgtgcact gctgaagatg aatatcccta atccttcata
900
aagaatcagc tagagttgtc atgataaagt cagcacacac aaaaaggctt cttacacata
960
cctgtcttaa accatgtgta gagctttaaa aacagaaaaa aaaccccata tacttatgac
1020
catcttaaat caagaaaatt gcatatttcc attctggtct ttctgggcca gattttata
1080
ttggttttca gtaaatgtct atctataata tttcattata gagtccagta gcttaatact
1140
```

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gacactgact tgatacagca tgaagtttct agtgccacac acagtattta gaaaaccttt
1200
aggcgtgaat gactcatgtg ggatatatgt aaacataatg tttattttat ctcacaaatg
1260
catgtgaaat gtataattac atcttaggaa tccaaatgg tctgcagaga gtgagcggag
1320
gcaccagatc aatgttggtt ctttgcactg gtgagattct gcctgatgaa tattaaagat
1380
atcctgcttt ctgagaactc tatcaccaga tggcagttgg gatatgggag gaactaaagc
1440
atcctgtttt gtatctgtcc agatcattat ttctgtctct tgttttttct tcctggttca
1500
ggatactttt ttaaggggtt gagaattgaa gattttccaa aagcgttcat gaatttagag
1560
cattccaccc aatataataa aacctgttaa gaatgtcagt ctttgttcaa acatctgttt
1620
gttctatctc cagtcattaa atcagtgctg ctgcatgaca ctcttaactc ctgacttttt
1680
atatccagtc ataaagttga ctttcagcac aaaagatact tataaacaaa taaaaaattt
1740
ttattttct ctcttactga tgtaagctt
1769
```

```
<210> 4200
<211> 186
<212> PRT
<213> Homo sapiens
```

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<400> 4200
Met Leu Ala Leu Ile Ser Arg Leu Leu Asp Trp Phe Arg Ser Leu Phe
1               5                   10                  15
Trp Lys Glu Glu Met Glu Leu Thr Leu Val Gly Leu Gln Tyr Ser Gly
            20                  25                  30
Lys Thr Thr Phe Val Asn Val Ile Ala Ser Gly Gln Phe Ser Glu Asp
            35                  40                  45
Met Ile Pro Thr Val Gly Phe Asn Met Arg Lys Val Thr Lys Gly Asn
        50                  55                  60
Val Thr Ile Lys Ile Trp Asp Ile Gly Gly Gln Pro Arg Phe Arg Ser
65                  70                  75                  80
Met Trp Glu Arg Tyr Cys Arg Gly Val Asn Ala Ile Val Tyr Met Ile
                85                  90                  95
Asp Ala Ala Asp Arg Glu Lys Ile Glu Ala Ser Arg Asn Glu Leu His
            100                 105                 110
Asn Leu Leu Asp Lys Pro Gln Leu Gln Gly Ile Pro Val Leu Val Leu
        115                 120                 125
Gly Asn Lys Arg Asp Leu Pro Gly Ala Leu Asp Glu Lys Glu Leu Ile
        130                 135                 140
Glu Lys Met Asn Leu Ser Ala Ile Gln Asp Arg Glu Ile Cys Cys Tyr
145                 150                 155                 160
Ser Ile Ser Cys Lys Glu Lys Asp Asn Ile Asp Ile Thr Leu Gln Trp
                165                 170                 175
Leu Ile Gln His Ser Lys Ser Arg Arg Ser
                180                 185
```

3393

<210> 4201
<211> 917.
<212> DNA
<213> Homo sapiens

<400> 4201
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ctcctcaact accgcaacat ctggaaaaat ctgcttatcc tgggcttcac caacttcatt
120
gcccatgcca ttcgccactg ctaccagcct gtgggaggag gagggagccc atcggacttc
180
tacctgtgct ctctgctggc cagcggancc gcagccctgg cctgtgtctt cctgggggtc
240
accgtggacc gatttggccg ccggggcatc cttcttctct ccatgaccct taccggcatt
300
gcttccctgg tcctgctggg cctgtgggat tatctgaacg aggctgccat caccactttc
360
tctgtccttg ggctcttctc ctcccaagct gccgccatcc tcagcaccct ccttgctgct
420
gaggtcatcc ccaccactgt ccggggccgt ggcctgggcc tgatcatggc tctaggggcg
480
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540
cacgtggtgc tggcggcctg cgccctcctc tgcattctca gcattatgct gctgccggag
600
accaagcgca agctcctgcc cgaggtgctc cgggacgggg agctgtgtcg ccggccttcc
660
ctgctgcggc agccaacccc tacccgctgt gaccacgtcc cgctgcttgc cacccccaac
720
cctgccctct gaacggcctc tgagtaccct ccctgctgct ttgcattcac ttccttggcc
780
agagtcaggg gacagggaga gagctccaca ctgtaaccac tgggtctggg ctccatcctg
840
cgcccaaaga catccacccca gacctcatta attcttgctc tatcaatctg tttcaataaa
900
gacatttgga ataaacg
917

<210> 4202
<211> 243
<212> PRT
<213> Homo sapiens

<400> 4202
Leu Gln Asp Leu Glu Asn Thr Cys Pro Leu Pro Ala Thr Ser Ser Phe
1   5   10   15
Ser Phe Ala Ser Leu Leu Asn Tyr Arg Asn Ile Trp Lys Asn Leu Leu
            20   25   30
Ile Leu Gly Phe Thr Asn Phe Ile Ala His Ala Ile Arg His Cys Tyr
        35   40   45
Gln Pro Val Gly Gly Gly Ser Pro Ser Asp Phe Tyr Leu Cys Ser
    50   55   60
Leu Leu Ala Ser Gly Xaa Ala Ala Leu Ala Cys Val Phe Leu Gly Val

3394

```
65                      70                      75                      80
Thr Val Asp Arg Phe Gly Arg Arg Gly Ile Leu Leu Leu Ser Met Thr
                85                      90                      95
Leu Thr Gly Ile Ala Ser Leu Val Leu Leu Gly Leu Trp Asp Tyr Leu
            100                     105                     110
Asn Glu Ala Ala Ile Thr Thr Phe Ser Val Leu Gly Leu Phe Ser Ser
        115                     120                     125
Gln Ala Ala Ala Ile Leu Ser Thr Leu Leu Ala Ala Glu Val Ile Pro
    130                     135                     140
Thr Thr Val Arg Gly Arg Gly Leu Gly Leu Ile Met Ala Leu Gly Ala
145                     150                     155                     160
Leu Gly Gly Leu Ser Gly Pro Ala Gln Arg Leu His Met Gly His Gly
                165                     170                     175
Ala Phe Leu Gln His Val Val Leu Ala Ala Cys Ala Leu Leu Cys Ile
            180                     185                     190
Leu Ser Ile Met Leu Leu Pro Glu Thr Lys Arg Lys Leu Leu Pro Glu
        195                     200                     205
Val Leu Arg Asp Gly Glu Leu Cys Arg Arg Pro Ser Leu Leu Arg Gln
    210                     215                     220
Pro Thr Pro Thr Arg Cys Asp His Val Pro Leu Leu Ala Thr Pro Asn
225                     230                     235                     240
Pro Ala Leu
```

```
<210> 4203
<211> 1368
<212> DNA
<213> Homo sapiens

<400> 4203
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gctaggctcc atgcccagtt cctgtgagga gaaaacacgt ttctatgtgc ccggcaggta
120
ggaggcactc acaaaatgtt actttgtctt tacagaattt tctgaaggag agataaaaac
180
tgagttaaat aaagatgatc agaatggatg agaaataact ttagacatta tttcattgaa
240
ccttcccaac tgaaattatt ttatgatgtt ataacatgga tagtaactca agtagcaata
300
agttacacag ttgtgccatt tgtgcttctt tctataaaac catcactcac gttttacagc
360
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420
aaaaactcaa agaagaaaga atacacatga aaacattcag ctctcacaat ccaaaaagtt
480
tgatgaagga gaaaattctt tgggacagaa cagtttttct acaacaaaca atgtttgcaa
540
tcagaatcaa gaaatagcct cgagacattc atcactaaag cagtgatcgg gaaggctctg
600
agggctgttt tttttttttg atgttaacag aaaccaatct tagcaccttt tcaaggggtt
660
tgagtttgtt ggaaaagcag ttaactgggg ggaaatggac agttatagat aaggaatttc
720
```

ctgtacacca gattggaaat ggagtgaaac aagccctccc atgccatgtc cccgtgggcc
780

acgccttatg taagaatatt tccatatttc agtgggcact cccaacctca gcacttgtcc
840

gtagggtcac acgcgtgccc tgttgctgaa tgtatgttgc gtatcccaag gcactgaaga
900

ggtggaaaaa taatcgtgtc aatctggatg atagagagaa attaactttt ccaaatgaat
960

gtcttgcctt aaaccctcta tttcctaaaa tattgttcct aaatggtatt ttcaagtgta
1020

atattgtgag aacgctactg cagtagttga tgttgtgtgc tgtaaaggat tttaggagga
1080

atttgaaaca ggatatttaa gagtgtggat attttttaaaa tgcaataaac atctcagtat
1140

ttgaagggtt ttcttaaagt atgtcaaatg actacaatcc atagtgaaac tgtaaacagt
1200

aatggacgcc aaattatagg tagctgattt tgctggagag tttaattacc ttgtgcagtc
1260

aaagagcgct tccagaagga atctcttaaa acataatgag aggtttggta atgtgatatt
1320

ttaagcttac tcttttctt aaaagagaga ggtgacgaag gaaggcag
1368

<210> 4204
<211> 80
<212> PRT
<213> Homo sapiens

<400> 4204
Met Arg Asn Asn Phe Arg His Tyr Phe Ile Glu Pro Ser Gln Leu Lys
1   5   10   15
Leu Phe Tyr Asp Val Ile Thr Trp Ile Val Thr Gln Val Ala Ile Ser
            20   25   30
Tyr Thr Val Val Pro Phe Val Leu Leu Ser Ile Lys Pro Ser Leu Thr
            35   40   45
Phe Tyr Ser Ser Trp Tyr Tyr Cys Leu His Ile Leu Gly Ile Leu Val
        50   55   60
Leu Leu Leu Leu Pro Val Lys Lys Asn Ser Lys Lys Lys Glu Tyr Thr
65   70   75   80

<210> 4205
<211> 6523
<212> DNA
<213> Homo sapiens

<400> 4205
gaagaggagg aggaagagga agaggaagag gaggaggagg aggcagctcc tgatgtgatc
60

tttcaggaag acacctctca cacctctgcc cagaaggccc ctgagctccg gggcccagaa
120

tcacccagtc ccaagcctga gtactctgtt attgtggagg tccgctcgga tgatgacaag
180

gacgaggaca cccactcccg gaagtcaaca gtcactgacg agtcggagat gcaggacatg
240

3396

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atgacccggg gaaacctggg cctcctggag caggccatcg ccctgaaggc tgaacaggtg
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360
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600
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660
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720
tccaagagta gctccaattc cgatcggatc ctcaggccca tgtgcttcgt gaagcagctc
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1380
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1560
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1620
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1680
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1740
aaaagtggag tcaaggtggc acccaccaag gacgacaagg aggaccccga gctgatgaag
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1860
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1980
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2100
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2220
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2340
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2400
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2460
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2520
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2580
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2700
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2760
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2820
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3060
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3120
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3180
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3240
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3300
cagtatgatc gtgtatactg tggggctggc gtgcagaaag agcatgaaga gtacatgaag
3360
aatcttctca agtgggagg gatccttgtc atgccactgg aagagaagtt gactaagata
3420
acacgcacag gtccttcagc ttgggaaacc aaaaagattc ttgctgtttc ttttgctcct
3480
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ctgatccagc cctgccattc agagtcagga aaatcaagac ttgtccagtt accaccagtg
3540
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3600
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3660
cgaaggagag ttcgccgccg tcgaatggaa acgattgtct ttttggacaa agaagtcttt
3720
gccagtcgga tttccaaccc ctcagatgac aacagctgtg aagacttgga agaggaacgg
3780
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3840
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3900
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3960
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4020
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tgcacggtac tcactaaaaa tgaaaactga agtggaaact aacctgtgtt gcttataaag
4320
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4380
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4440
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4500
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4560
aatgaattgc cagataatct ttctggaatt ccgagagaat tccaaagagg gttttttttt
4620
ttttttttag gacatctttt gataccttta aaagaaccac tgtcaagtaa tccttaaaag
4680
aatatcttgg aaaaggaaac agatttttc ctgtgtgtaa gcaataagtg aagttacatt
4740
tgccctaacc ctagggatga ttctttaccc agttttaaag cccatcatgg tattctaagg
4800
tgttgacacc ctccatcctc agagcaggtc gaaaatatta aatagactgg ggactctatg
4860
atgggcagcc tgtgcttttt gacttcagtt tgctattttt ctgtgatcac attagtactg
4920
attcatagat tctatctttt ataattctgg agaaaaagat ttgttagttt tgtaattttt
4980
ttgtaagacc aaatgtatgt attttagtag ctccattgca tgagaagagt gtaactcaca
5040
ctgacttgtg atatcagcct tctctgggcc ttgtgtgtgg agagctttct atcttaccaa
5100
gtggtagggc taaaagaaca acagcctttt tggtagtcac atagcagaat gatcagagtt
5160
```

```
acattgctta ttccaaaaca ttggttcttt ttaaaacatt ttttttttacc caaagaaaag
5220
aataatagaa attactaaca ataaatataa attcagagtg ttgatatagg attcagtatc
5280
cagagtttat ttttaatctt aatcctcagc ttcttgggag ttgctgggct tcagtgtctc
5340
tgtggtttca ccagcttagc ttgagctctg gttattttgg atctttctg cttttttaa
5400
gtaactgagt cattttacc acacagtcca gtttgcatgt atagctagga aacatgtatt
5460
gctctagatt gggcagttta agtcatttta aagaaagtta gttcatagtt gttgcctttt
5520
aactcatagt caagcttcag tctttcaaag agaaatgtgt gattttcatt tacttgctga
5580
tattttgtag tttggagatc cttgtgggca ttattctaac tgatacgtag acacttactt
5640
ggaaatttt ggacattata ttaaatgagt gctatctgtg aaattggtta tattaggtgg
5700
cttgactaat gttttttcta taattgtata tggactgcat ttttaaaaaa accgcatttg
5760
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5820
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5880
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5940
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6000
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6060
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6120
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6180
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6240
ctggaacttg ggaaaatcca gggaatttga aacatagatt ttaatgagct ggtaaacaca
6300
aatcatgtca ataaaggtag tcaggatatt ttatccttag cattgcttct gcatcctgtg
6360
taggattcca attcttgaat atgttctttt caaaatctta agaaaagaac cttttttctt
6420
tattaacatc atgtgtttac tttcagcaaa tatttgtatt actgcttgat tctgtgacat
6480
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6523
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<210> 4206
<211> 829
<212> PRT
<213> Homo sapiens

<400> 4206
Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala
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3400

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       1                   5                    10                   15
      Pro Asp Val Ile Phe Gln Glu Asp Thr Ser His Thr Ser Ala Gln Lys
               ·   20              25                   30
      Ala Pro Glu Leu Arg Gly Pro Glu Ser Pro Ser Pro Lys Pro Glu Tyr
              35              40               45
      Ser Val Ile Val Glu Val Arg Ser Asp Asp Asp Lys Asp Glu Asp Thr
          50              55              60
      His Ser Arg Lys Ser Thr Val Thr Asp Glu Ser Glu Met Gln Asp Met
      65              70               75                       80
      Met Thr Arg Gly Asn Leu Gly Leu Leu Glu Gln Ala Ile Ala Leu Lys
                  85               90                       95
      Ala Glu Gln Val Arg Thr Val Cys Glu Pro Gly Cys Pro Pro Ala Glu
                 100             105             110
      Gln Ser Gln Leu Gly Leu Gly Glu Pro Gly Lys Ala Ala Lys Pro Leu
                 115             120             125
      Asp Thr Val Arg Lys Ser Tyr Tyr Ser Lys Asp Pro Ser Arg Ala Glu
                 130             135             140
      Lys Arg Glu Ile Lys Cys Pro Thr Pro Gly Cys Asp Gly Thr Gly His
      145             150             155                     160
      Val Thr Gly Leu Tyr Pro His His Arg Ser Leu Ser Gly Cys Pro His
                 165             170             175
      Lys Asp Arg Ile Pro Pro Glu Ile Leu Ala Met His Glu Asn Val Leu
                 180             185             190
      Lys Cys Pro Thr Pro Gly Cys Thr Gly Gln Gly His Val Asn Ser Asn
                 195             200             205
      Arg Asn Thr His Arg Ser Leu Ser Gly Cys Pro Ile Ala Ala Ala Glu
                 210             215             220
      Lys Leu Ala Lys Ser His Glu Lys Gln Gln Pro Gln Thr Gly Asp Pro
      225             230             235                     240
      Ser Lys Ser Ser Ser Asn Ser Asp Arg Ile Leu Arg Pro Met Cys Phe
                 245             250             255
      Val Lys Gln Leu Glu Val Pro Pro Tyr Gly Ser Tyr Arg Pro Asn Val
                 260             265             270
      Ala Pro Ala Thr Pro Arg Ala Asn Leu Ala Lys Glu Leu Glu Lys Phe
                 275             280             285
      Ser Lys Val Thr Phe Asp Tyr Ala Ser Phe Asp Ala Gln Val Phe Gly
                 290             295             300
      Lys Arg Met Leu Ala Pro Lys Ile Gln Thr Ser Glu Thr Ser Pro Lys
      305             310             315                     320
      Ala Phe Gln Cys Phe Asp Tyr Ser Gln Asp Ala Glu Ala Ala His Met
                 325             330             335
      Ala Ala Thr Ala Ile Leu Asn Leu Ser Thr Arg Cys Trp Glu Met Pro
                 340             345             350
      Glu Asn Leu Ser Thr Lys Pro Gln Asp Leu Pro Ser Lys Ser Val Asp
                 355             360             365
      Ile Glu Val Asp Glu Asn Gly Thr Leu Asp Leu Ser Met His Lys His
                 370             375             380
      Arg Lys Arg Glu Asn Ala Phe Pro Ser Ser Ser Ser Cys Ser Ser Ser
      385             390             395                     400
      Pro Gly Val Lys Ser Pro Asp Ala Ser Gln Arg His Ser Ser Thr Ser
                 405             410             415
      Ala Pro Ser Ser Ser Met Thr Ser Pro Gln Ser Ser Gln Ala Ser Arg
                 420             425             430
      Gln Asp Glu Trp Asp Arg Pro Leu Asp Tyr Thr Lys Pro Ser Arg Leu
```

3401

```
              435               440               445
Arg Glu Glu Glu Pro Glu Glu Ser Glu Pro Ala Ala His Ser Phe Ala
    450               455               460
Ser Ser Glu Ala Asp Asp Gln Glu Val Ser Glu Glu Asn Phe Glu Glu
465               470               475               480
Arg Lys Tyr Pro Gly Glu Val Thr Leu Thr Asn Phe Lys Leu Lys Phe
                485               490               495
Leu Ser Lys Asp Ile Lys Lys Glu Leu Leu Thr Cys Pro Thr Pro Gly
                500               505               510
Cys Asp Gly Ser Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser
    515               520               525
Leu Ser Gly Cys Pro Leu Ala Asp Lys Ser Leu Arg Asn Leu Met Ala
    530               535               540
Ala His Ser Ala Asp Leu Lys Cys Pro Thr Pro Gly Cys Asp Gly Ser
545               550               555               560
Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser Leu Ser Gly Cys
                565               570               575
Pro Arg Ala Lys Lys Ser Gly Val Lys Val Ala Pro Thr Lys Asp Asp
                580               585               590
Lys Glu Asp Pro Glu Leu Met Lys Cys Pro Val Pro Gly Cys Val Gly
    595               600               605
Leu Gly His Ile Ser Gly Lys Tyr Ala Ser His Arg Ser Ala Ser Gly
    610               615               620
Cys Pro Leu Ala Ala Arg Arg Gln Lys Glu Gly Ser Leu Asn Gly Ser
625               630               635               640
Ser Phe Ser Trp Lys Ser Leu Lys Asn Glu Gly Pro Thr Cys Pro Thr
                645               650               655
Pro Gly Cys Asp Gly Ser Gly His Ala Asn Gly Ser Phe Leu Thr His
                660               665               670
Arg Ser Leu Ser Gly Cys Pro Arg Ala Thr Phe Ala Gly Lys Lys Gly
    675               680               685
Lys Leu Ser Gly Asp Glu Val Leu Ser Pro Lys Phe Lys Thr Ser Asp
    690               695               700
Val Leu Glu Asn Asp Glu Glu Ile Lys Gln Leu Asn Gln Glu Ile Arg
705               710               715               720
Asp Leu Asn Glu Ser Asn Ser Glu Met Glu Ala Ala Met Val Gln Leu
                725               730               735
Gln Ser Gln Ile Ser Ser Met Glu Lys Asn Leu Lys Asn Ile Glu Glu
                740               745               750
Glu Asn Lys Leu Ile Glu Glu Gln Asn Glu Ala Leu Phe Leu Glu Leu
    755               760               765
Ser Gly Leu Ser Gln Ala Leu Ile Gln Ser Leu Ala Asn Ile Arg Leu
    770               775               780
Pro His Met Glu Pro Ile Cys Glu Gln Asn Phe Asp Ala Tyr Val Ser
785               790               795               800
Thr Leu Thr Asp Met Tyr Ser Asn Gln Asp Pro Glu Asn Lys Asp Leu
                805               810               815
Leu Glu Ser Ile Lys Gln Ala Val Arg Gly Ile Gln Val
                820               825
```

<210> 4207
<211> 1016
<212> DNA
<213> Homo sapiens

<400> 4207

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60

gtttcttatt atttctgaca gacaggttct gaggagaaat taatttagtc ttttttcggg
120

tatcaactac tccaacagtt ttgccatgat cacgtaattg agctacataa tccaaagacc
180

gctgggacaa ctcatatgcc ttacgaggac cctttttcag gccaagtttc tcagctgttg
240

aagttggctc aggacactga cgaaatttct ttggcggcac tatagcagga gttgttctac
300

aacttaggta atttgaactt ctattctgtc cttttttggc atctgaatga gttttcttag
360

gggtcttaga aactggaact ttcctgatgg gttctgtaca agtacaaagc tttgaagact
420

tcttttgtga aaccgtagtg gctctctgaa tacgtgaatt gggagttgaa gtccttctat
480

caatactttt aaaatcattt cccacaagct ctctcttatt agtatcagac tggccctcat
540

ttctgacaga agatgaagac ctcacaggat cttcagccat tggttttca gatcgttttc
600

tcttaggctt ttttacttca atttcacaaa attcttcaac agaaatactc cgtggtcttg
660

tgtgttcttc aatgccctct gctccttttt taacaacttc agatacataa tctgtacaac
720

cctgaccatt tgtagtattg gctataggag ccaaacattt tttctcacca tcttgaactg
780

aattattatc gtctggatga tcttgccaaa ctgaaaacac ttcagatgaa ctttcaaact
840

caaaacactg agaatcagat tcctcaaact gaaaaagagt ctctgtcttt tcttcctta
900

ctggattctt ttcctcctta ctattaactg ttgaaacgtg ctgctctgga tgttccctct
960

caaggcatat tttgtcctgt ttagtgagtt tctcaagact caggattctt tcatca
1016

<210> 4208
<211> 193
<212> PRT
<213> Homo sapiens

<400> 4208
Met Ala Glu Asp Pro Val Arg Ser Ser Ser Ser Val Arg Asn Glu Gly
1   5   10   15
Gln Ser Asp Thr Asn Lys Arg Glu Leu Val Gly Asn Asp Phe Lys Ser
            20   25   30
Ile Asp Arg Arg Thr Ser Thr Pro Asn Ser Arg Ile Gln Arg Ala Thr
        35   40   45
Thr Val Ser Gln Lys Lys Ser Ser Lys Leu Cys Thr Cys Thr Glu Pro
    50   55   60
Ile Arg Lys Val Pro Val Ser Lys Thr Pro Lys Lys Thr His Ser Asp
65   70   75   80
Ala Lys Lys Gly Gln Asn Arg Ser Ser Asn Tyr Leu Ser Cys Arg Thr

```
                85                90                95
Thr Pro Ala Ile Val Pro Pro Lys Lys Phe Arg Gln Cys Pro Glu Pro
            100               105               110
Thr Ser Thr Ala Glu Lys Leu Gly Leu Lys Lys Gly Pro Arg Lys Ala
        115               120               125
Tyr Glu Leu Ser Gln Arg Ser Leu Asp Tyr Val Ala Gln Leu Arg Asp
    130               135               140
His Gly Lys Thr Val Gly Val Val Asp Thr Arg Lys Lys Thr Lys Leu
145               150               155               160
Ile Ser Pro Gln Asn Leu Ser Val Arg Asn Asn Lys Lys Leu Leu Thr
            165               170               175
Ser Gln Glu Leu Gln Met Gln Arg Gln Ile Arg Pro Lys Ser Gln Lys
            180               185               190
Lys
```

```
<210> 4209
<211> 2661
<212> DNA
<213> Homo sapiens

<400> 4209
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cggccggacc ttgtcttcga ggaagaggac ctcccctatg aggaggaaat catgcggaac
120
caattctctg tcaaatgctg gcttcgctac atcgagttca acagggcgc cccgaagccc
180
aggctcaatc agctatacga gcgggcactc aagctgctgc cctgcagcta caaactctgg
240
taccgatacc tgaaggcgcg tcgggcacag gtgaagcatc gctgtgtgac cgaccctgcc
300
tatgaagatg tcaacaactg tcatgagagg gcctttgtgt tcatgcacaa gatgcctcgt
360
ctgtggctag attactgcca gttcctcatg gaccaggggc gcgtcacaca cacccgccgc
420
accttcgacc gtgccctccg ggcactgccc atcacgcagc actctcgaat ttggcccctg
480
tatctgcgct tcctgcgctc acacccactg cctgagacag ctgtgcgagg ctatcggcgc
540
ttcctcaagc tgagtcctga gagtgcagag gagtacattg agtacctcaa gtcaagtgac
600
cggctggatg aggccgccca gcgcctggcc accgtggtga cgacgagcg tttcgtgtct
660
aaggccggca agtccaacta ccagctgtgg cacgagctgt gcgacctcat ctcccagaat
720
ccggacaagg tacagtccct caatgtggac gccatcatcc gcggggggcct cacccgcttc
780
accgaccagc tgggcaagct ctggtgttct ctcgccgact actacatccg cagcggccat
840
ttcgagaagg ctcgggacgt gtacgaggag gccatccgga cagtgatgac cgtgcgggac
900
ttcacacagg tgtttgacag ctacgcccag ttcgaggaga gcatgatcgc tgcaaagatg
960
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gagaccgcct cggagctggg tcgcgaggag gaggatgatg tggacctgga gctgcgcctg
1020
gcccgcttcg agcacctcat cagccggcgg cccctgcacc tcagcagcgt cttgctgcgc
1080
caaaacccac accacgtgca cgagtggcac aagcgtgtcg ccctgcacca gggccgcccc
1140
cgggagatca tcaacaccta cacagaggct gtgcagacgg tggacccctt caaggccaca
1200
ggcaagcccc acactctgtg ggtggcgttt gccaagtttt atgaggacaa cggacagctg
1260
gacgatgccc gtgtcatcct ggagaaggcc accaaggtga acttcaagca ggtggatgac
1320
ctggcaagcg tgtggtgtca gtgcggagag ctggagctcc gacacgagaa ctacgatgag
1380
gccttgcggc tgctgcgaaa ggccacggcg ctgcctccgc cgggccgagt atttgatggt
1440
tcagagcccg tgcagaaccg cgtgtacaag tcactgaagg tctggtccat gctcgccgac
1500
ctggaggaga gcctcggcac cttccagtcc accaaggccg tgtacgaccg catcctggac
1560
ctgcgtatcg caacacccca gatcgtcatc aactatgcca tgttcctgga ggagcacaag
1620
tacttcgagg agagcttcaa ggcgtacgag cgcggcatct cgctgttcaa gtggcccaac
1680
gtgtccgaca tctggagcac ctacctgacc aaattcattg cccgctatgg gggccgcaag
1740
ctggagcggg cacgggacct gtttgaacag gctctggacg gctgcccccc aaaatatgcc
1800
aagaccttgt acctgctgta cgcacagctg gaggaggagt ggggcctggc ccggcatgcc
1860
atggccgtgt acgagcgtgc caccagggcc gtggagcccg cccagcagta tgacatgttc
1920
aacatctaca tcaagcgggc ggccgagatc tatggggtca cccacacccg cggcatctac
1980
cagaaggcca ttgaggtgct gtcggacgag cacgcgcgtg agatgtgcct gcggtttgca
2040
gacatggagt gcaagctcgg ggagatcgac cgcgcccggg ctatctacag cttctgctcc
2100
cagatctgtg atccccggac aactggggca ttctggcaaa cgtggaagga ctttgaggtc
2160
cggcatggca acgaggacac catcagggag atgctgagga tacggcggag tgtgcaggcc
2220
acgtacaaca ctcaggtcaa cttcatggcc tcgcagatgc tcaaggtgtc gggcagtgcc
2280
acgggcaccg tgtctgacct ggctcccggg cagagcggca tggatgacat gaagttgctg
2340
gaacagagag cagaacagct ggcggctgag gcggagcgtg accagcccct tgcgcgcccag
2400
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2460
caggtcaacc ccgaggagat ccagctgggc gaggacgagg acgaggacga gatggacctg
2520
gagcccaacg aggttcggct ggagcagcag agcgtgccag ccgcagtgtt tgggagcctg
2580
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3405

aaggaagact gacccgtccc tcccccatcc cccctcccca ccccctcccc aatacagcta
2640
cgtttgtaca tcaaaaaaaa a
2661

<210> 4210
<211> 863
<212> PRT
<213> Homo sapiens

<400> 4210
Xaa Ser Cys Thr Trp Ala Ser Arg Lys Met Val Val Met Ala Arg Leu
1   5   10   15
Ser Arg Pro Glu Arg Pro Asp Leu Val Phe Glu Glu Glu Asp Leu Pro
            20   25   30
Tyr Glu Glu Glu Ile Met Arg Asn Gln Phe Ser Val Lys Cys Trp Leu
        35   40   45
Arg Tyr Ile Glu Phe Lys Gln Gly Ala Pro Lys Pro Arg Leu Asn Gln
    50   55   60
Leu Tyr Glu Arg Ala Leu Lys Leu Leu Pro Cys Ser Tyr Lys Leu Trp
65   70   75   80
Tyr Arg Tyr Leu Lys Ala Arg Arg Ala Gln Val Lys His Arg Cys Val
                85   90   95
Thr Asp Pro Ala Tyr Glu Asp Val Asn Asn Cys His Glu Arg Ala Phe
            100   105   110
Val Phe Met His Lys Met Pro Arg Leu Trp Leu Asp Tyr Cys Gln Phe
        115   120   125
Leu Met Asp Gln Gly Arg Val Thr His Thr Arg Arg Thr Phe Asp Arg
    130   135   140
Ala Leu Arg Ala Leu Pro Ile Thr Gln His Ser Arg Ile Trp Pro Leu
145   150   155   160
Tyr Leu Arg Phe Leu Arg Ser His Pro Leu Pro Glu Thr Ala Val Arg
                165   170   175
Gly Tyr Arg Arg Phe Leu Lys Leu Ser Pro Glu Ser Ala Glu Glu Tyr
            180   185   190
Ile Glu Tyr Leu Lys Ser Ser Asp Arg Leu Asp Glu Ala Ala Gln Arg
        195   200   205
Leu Ala Thr Val Val Asn Asp Glu Arg Phe Val Ser Lys Ala Gly Lys
    210   215   220
Ser Asn Tyr Gln Leu Trp His Glu Leu Cys Asp Leu Ile Ser Gln Asn
225   230   235   240
Pro Asp Lys Val Gln Ser Leu Asn Val Asp Ala Ile Ile Arg Gly Gly
            245   250   255
Leu Thr Arg Phe Thr Asp Gln Leu Gly Lys Leu Trp Cys Ser Leu Ala
            260   265   270
Asp Tyr Tyr Ile Arg Ser Gly His Phe Glu Lys Ala Arg Asp Val Tyr
        275   280   285
Glu Glu Ala Ile Arg Thr Val Met Thr Val Arg Asp Phe Thr Gln Val
    290   295   300
Phe Asp Ser Tyr Ala Gln Phe Glu Glu Ser Met Ile Ala Ala Lys Met
305   310   315   320
Glu Thr Ala Ser Glu Leu Gly Arg Glu Glu Asp Asp Val Asp Leu
            325   330   335
Glu Leu Arg Leu Ala Arg Phe Glu His Leu Ile Ser Arg Arg Pro Leu

3406

```
                    340                   345                   350
His Leu Ser Ser Val Leu Leu Arg Gln Asn Pro His His Val His Glu
        355                   360                   365
Trp His Lys Arg Val Ala Leu His Gln Gly Arg Pro Arg Glu Ile Ile
        370                   375                   380
Asn Thr Tyr Thr Glu Ala Val Gln Thr Val Asp Pro Phe Lys Ala Thr
385                   390                   395                   400
Gly Lys Pro His Thr Leu Trp Val Ala Phe Ala Lys Phe Tyr Glu Asp
                    405                   410                   415
Asn Gly Gln Leu Asp Asp Ala Arg Val Ile Leu Glu Lys Ala Thr Lys
                    420                   425                   430
Val Asn Phe Lys Gln Val Asp Asp Leu Ala Ser Val Trp Cys Gln Cys
        435                   440                   445
Gly Glu Leu Glu Leu Arg His Glu Asn Tyr Asp Glu Ala Leu Arg Leu
        450                   455                   460
Leu Arg Lys Ala Thr Ala Leu Pro Pro Pro Gly Arg Val Phe Asp Gly
465                   470                   475                   480
Ser Glu Pro Val Gln Asn Arg Val Tyr Lys Ser Leu Lys Val Trp Ser
                    485                   490                   495
Met Leu Ala Asp Leu Glu Glu Ser Leu Gly Thr Phe Gln Ser Thr Lys
                    500                   505                   510
Ala Val Tyr Asp Arg Ile Leu Asp Leu Arg Ile Ala Thr Pro Gln Ile
                    515                   520                   525
Val Ile Asn Tyr Ala Met Phe Leu Glu Glu His Lys Tyr Phe Glu Glu
        530                   535                   540
Ser Phe Lys Ala Tyr Glu Arg Gly Ile Ser Leu Phe Lys Trp Pro Asn
545                   550                   555                   560
Val Ser Asp Ile Trp Ser Thr Tyr Leu Thr Lys Phe Ile Ala Arg Tyr
                    565                   570                   575
Gly Gly Arg Lys Leu Glu Arg Ala Arg Asp Leu Phe Glu Gln Ala Leu
                    580                   585                   590
Asp Gly Cys Pro Pro Lys Tyr Ala Lys Thr Leu Tyr Leu Leu Tyr Ala
        595                   600                   605
Gln Leu Glu Glu Glu Trp Gly Leu Ala Arg His Ala Met Ala Val Tyr
        610                   615                   620
Glu Arg Ala Thr Arg Ala Val Glu Pro Ala Gln Gln Tyr Asp Met Phe
625                   630                   635                   640
Asn Ile Tyr Ile Lys Arg Ala Ala Glu Ile Tyr Gly Val Thr His Thr
                    645                   650                   655
Arg Gly Ile Tyr Gln Lys Ala Ile Glu Val Leu Ser Asp Glu His Ala
                    660                   665                   670
Arg Glu Met Cys Leu Arg Phe Ala Asp Met Glu Cys Lys Leu Gly Glu
        675                   680                   685
Ile Asp Arg Ala Arg Ala Ile Tyr Ser Phe Cys Ser Gln Ile Cys Asp
        690                   695                   700
Pro Arg Thr Thr Gly Ala Phe Trp Gln Thr Trp Lys Asp Phe Glu Val
705                   710                   715                   720
Arg His Gly Asn Glu Asp Thr Ile Arg Glu Met Leu Arg Ile Arg Arg
                    725                   730                   735
Ser Val Gln Ala Thr Tyr Asn Thr Gln Val Asn Phe Met Ala Ser Gln
                    740                   745                   750
Met Leu Lys Val Ser Gly Ser Ala Thr Gly Thr Val Ser Asp Leu Ala
        755                   760                   765
Pro Gly Gln Ser Gly Met Asp Asp Met Lys Leu Leu Glu Gln Arg Ala
```

```
      770                      775                      780
Glu Gln Leu Ala Ala Glu Ala Glu Arg Asp Gln Pro Leu Arg Ala Gln
785                      790                      795                      800
Ser Lys Ile Leu Phe Val Arg Ser Asp Ala Ser Arg Glu Glu Leu Ala
                   805                      810                      815
Glu Leu Ala Gln Gln Val Asn Pro Glu Glu Ile Gln Leu Gly Glu Asp
                   820                      825                      830
Glu Asp Glu Asp Glu Met Asp Leu Glu Pro Asn Glu Val Arg Leu Glu
                   835                      840                      845
Gln Gln Ser Val Pro Ala Ala Val Phe Gly Ser Leu Lys Glu Asp
          850                      855                      860
```

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<210> 4211
<211> 456
<212> DNA
<213> Homo sapiens


<400> 4211
gggggatcgct agccccccagc ttctcagaac taaatatgaa agctcttgct cgtctacgct
60
tagttacaac agactccctg ggcctactgt aggggtcaag agcagatttc cagactctca
120
agctggaaaa gagacgctcc acactgcgac gacaaccaac acatgggaca agctgagaaa
180
gtgcactcag gacttcgcgt gatgtcacca ccatggcaat acttagatcc tgttgcttaa
240
gcataccatg tcgctgaaag agggaaagaa aatgaaagag cgtcctttaa aaagacgtaa
300
aattacactt tcactactac tggttcctat ccttgtgcag taaagtacaa cctggccagg
360
gtttaccagc tctacctgca actgagtcag aaaggcaaag tagtcagctt tgtccatgct
420
gtacggaatt tgctccacaa accccccttgc tctaga
456


<210> 4212
<211> 81
<212> PRT
<213> Homo sapiens


<400> 4212
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Met Leu Lys Gln Gln Asp Leu Ser Ile Ala Met Val Val Thr Ser Arg
  1               5                      10                      15
Glu Val Leu Ser Ala Leu Ser Gln Leu Val Pro Cys Val Gly Cys Arg
                   20                      25                      30
Arg Ser Val Glu Arg Leu Phe Ser Ser Leu Arg Val Trp Lys Ser Ala
          35                      40                      45
Leu Asp Pro Tyr Ser Arg Pro Arg Glu Ser Val Val Thr Lys Arg Arg
          50                      55                      60
Arg Ala Arg Ala Phe Ile Phe Ser Ser Glu Lys Leu Gly Ala Ser Asp
65                      70                      75                      80
Pro
```

<210> 4213
<211> 383
<212> DNA
<213> Homo sapiens

<400> 4213
nacgcgtacc tgtgccagcg cgcgcgcttc ttcgcagaga acgagggcct agacgactac
60
atggaggcac gcgagggcat gcacctcaag aacgtggact tccgtgagtt catggtggcc
120
ttcccggacc cggcccggcc gccctggtac gcctgctcgt cggccttctg ggccgcggcg
180
ctgctcacgc tgtcgtggcc gctgcgagtg ctggccgagt accgcacggc ctacgcgcac
240
taccacgtgg agaagctgtt tggcctggag ggcccgggct cggccagcag cgcaggcggt
300
ggcctcagcc ccagcgatga gctgctgccc ccgctcaccc accgcctgcc gcgggtcaac
360
acagtagaca gcacggagct cgg
383

<210> 4214
<211> 127
<212> PRT
<213> Homo sapiens

<400> 4214
Xaa Ala Tyr Leu Cys Gln Arg Ala Arg Phe Phe Ala Glu Asn Glu Gly
1   5   10   15
Leu Asp Asp Tyr Met Glu Ala Arg Glu Gly Met His Leu Lys Asn Val
            20   25   30
Asp Phe Arg Glu Phe Met Val Ala Phe Pro Asp Pro Ala Arg Pro Pro
        35   40   45
Trp Tyr Ala Cys Ser Ser Ala Phe Trp Ala Ala Ala Leu Leu Thr Leu
    50   55   60
Ser Trp Pro Leu Arg Val Leu Ala Glu Tyr Arg Thr Ala Tyr Ala His
65   70   75   80
Tyr His Val Glu Lys Leu Phe Gly Leu Glu Gly Pro Gly Ser Ala Ser
                85   90   95
Ser Ala Gly Gly Gly Leu Ser Pro Ser Asp Glu Leu Leu Pro Pro Leu
                100   105   110
Thr His Arg Leu Pro Arg Val Asn Thr Val Asp Ser Thr Glu Leu
            115   120   125

<210> 4215
<211> 939
<212> DNA
<213> Homo sapiens

<400> 4215
nggtacctcg gctgaataaa aattcaaaaa aacagcaatg gacaggaact tgagaagacg
60
ctggaagaaa gcaaagaaat ggatatcaaa cgtaaagaaa ataaaggcaa tgatacccct
120

3409

```
ttggccctag agagtacaaa cactgaaaag gagacaagcc tggaggaaac aaaaatcggg
180
gagatcctga tccagggctt gacagaagat atggtgactg ttttaatccg ggcctgcgtg
240
agcatgctgg gagtccctgt ggacccagat actttgcatg ccaccctttg tttctgtttg
300
agggtcactc ggggccccca attagccatg atgtttgcag aactgaagaa tacccgcatg
360
atcttgaatt tgacccagag ctcaggcttc aatgggttta ctcccctggt caccttctc
420
ttaagacaca tcattgagga cccctgtacc cttcgtcata ccatggaaaa ggttgttcgc
480
tcagcagcta caagtggagc tggtagcact acctctggtg ttgtgtctgg cagcctcggc
540
tctcgggaga tcaactacat ccttcgtgtc cttgggccag ccgcatgccg caatccagac
600
atattcacag aagtggccaa ctgctgtatc cgcatcgccc ttcctgcccc tcgaggctca
660
ggaactgctt cagatgatga atttgagaat cttagaatta aaggccctaa tgctgtacag
720
ctggtgaaga ccaccccttt gaagccctca cctctgcctg tcatccctga tactatcaag
780
gaagtgatct atgatatgct gaatgctctg ctgcatacc atgctccaga ggaagcagat
840
aaatctgatc ctaaacctgg ggttatgacc caagaggttg ccagctcct gcaagacatg
900
ggtgatgatg tataccagca gtaccggtca cttacgcgt
939
```

```
<210> 4216
<211> 287
<212> PRT
<213> Homo sapiens
```

```
<400> 4216
Met Asp Ile Lys Arg Lys Glu Asn Lys Gly Asn Asp Thr Pro Leu Ala
1               5                   10                  15
Leu Glu Ser Thr Asn Thr Glu Lys Glu Thr Ser Leu Glu Glu Thr Lys
            20                  25                  30
Ile Gly Glu Ile Leu Ile Gln Gly Leu Thr Glu Asp Met Val Thr Val
        35                  40                  45
Leu Ile Arg Ala Cys Val Ser Met Leu Gly Val Pro Val Asp Pro Asp
    50                  55                  60
Thr Leu His Ala Thr Leu Cys Phe Cys Leu Arg Val Thr Arg Gly Pro
65                  70                  75                  80
Gln Leu Ala Met Met Phe Ala Glu Leu Lys Asn Thr Arg Met Ile Leu
                85                  90                  95
Asn Leu Thr Gln Ser Ser Gly Phe Asn Gly Phe Thr Pro Leu Val Thr
            100                 105                 110
Leu Leu Leu Arg His Ile Ile Glu Asp Pro Cys Thr Leu Arg His Thr
            115                 120                 125
Met Glu Lys Val Val Arg Ser Ala Ala Thr Ser Gly Ala Gly Ser Thr
        130                 135                 140
Thr Ser Gly Val Val Ser Gly Ser Leu Gly Ser Arg Glu Ile Asn Tyr
```

```
145                     150                     155                     160
Ile Leu Arg Val Leu Gly Pro Ala Ala Cys Arg Asn Pro Asp Ile Phe
                    165                     170                     175
Thr Glu Val Ala Asn Cys Cys Ile Arg Ile Ala Leu Pro Ala Pro Arg
                180                     185                     190
Gly Ser Gly Thr Ala Ser Asp Asp Glu Phe Glu Asn Leu Arg Ile Lys
            195                     200                     205
Gly Pro Asn Ala Val Gln Leu Val Lys Thr Thr Pro Leu Lys Pro Ser
        210                     215                     220
Pro Leu Pro Val Ile Pro Asp Thr Ile Lys Glu Val Ile Tyr Asp Met
    225                     230                     235                     240
Leu Asn Ala Leu Ala Ala Tyr His Ala Pro Glu Glu Ala Asp Lys Ser
                    245                     250                     255
Asp Pro Lys Pro Gly Val Met Thr Gln Glu Val Gly Gln Leu Leu Gln
            260                     265                     270Met Gly Asp Asp
Val Tyr Gln Gln Tyr Arg Ser Leu Thr Arg
        275                     280                     285
```

<210> 4217
<211> 619
<212> DNA
<213> Homo sapiens

<400> 4217
```
acacacacac gcacacaaaa ctcagccaca ggctcaccag ggtctctctc aacatgcaca
60
catacacaca cacacccctc agtcataggc tcacaagagt ctctcttgtc tctctctcat
120
acatacacac acacacacaa ccagccacag gcccacaaag gtgtctctct ctttgtccct
180
gtctgctctc tcgcactcac acacacacat ctcagccaca ggcccaccag agtctgtctg
240
tctctttgtc tctctcactc tctctcacac acatacacct cagccacagg cccacaaggg
300
tctctctcct tgtccctggc tcctctctct cgcacactcc cacacacaca catacagctc
360
agccacaggc ccacgagggt gtctctctct ctctctctct ctcacacaca cacacacaca
420
cacacacgcc tgtgcagctc cacaggggcc tggggcagga gacagatctg aatacacata
480
ccaccctgtg ctgtgagtgg ccactcccat ccaacaactg agactttctg ttactgggcc
540
aaggttttct gccaaactca cttcccttat aatgaatgaa ttatccctca gaaggttcca
600
cagtcctccc ctggcgcgc
619
```

<210> 4218
<211> 155
<212> PRT
<213> Homo sapiens

<400> 4218
Met His Thr Tyr Thr His Thr Pro Leu Ser His Arg Leu Thr Arg Val

3411

```
      1                5                       10                        15
     Ser Leu Val Ser Leu Ser Tyr Ile His Thr His Thr Gln Pro Ala Thr
                      20                      25                      30
     Gly Pro Gln Arg Cys Leu Ser Leu Cys Pro Cys Leu Leu Ser Arg Thr
                      35                      40                      45
     His Thr His Thr Ser Gln Pro Gln Ala His Gln Ser Leu Ser Val Ser
                      50                      55                      60
     Leu Ser Leu Ser Leu Ser Leu Thr His Ile His Leu Ser His Arg Pro
     65                      70                      75                      80
     Thr Arg Val Ser Leu Leu Val Pro Gly Ser Ser Leu Ser His Thr Pro
                      85                      90                      95
     Thr His Thr His Thr Ala Gln Pro Gln Ala His Glu Gly Val Ser Leu
                      100                     105                     110
     Ser Leu Ser Leu Ser His Thr His Thr His Thr His Thr Pro Val Gln
                      115                     120                     125
     Leu His Arg Gly Leu Gly Gln Glu Thr Asp Leu Asn Thr His Thr Thr
                      130                     135                     140
     Leu Cys Cys Glu Trp Pro Leu Pro Ser Asn Asn
     145                     150                     155
```

<210> 4219
<211> 774
<212> DNA
<213> Homo sapiens

<400> 4219
```
ngcggccgcg cacctgctcc cgtcgcccta cagcaagatc acgcccccgc ggaggcccca
60
ccgctgcagc agcggccacg gcagcgacaa cagcagcgtg ctgagcgggg agctcccgcc
120
ggccatgggg aagacggccc tgttctacca cagcggcggc agcagcggct acgagagcgt
180
gatgcgggac agcgaggcca ccggcagcgc gtcctcggcg caggactcca cgagcgagaa
240
cagcagctcc gtgggcggca ggtgccggag cctcaagacc ccgaagaaac gctccaatcc
300
aggttctcag agacggaggc ttatcccagc actatccctg acacctctt cccctgtgag
360
aaaaccccc aacagcacag gcgtccgctg ggtggatggn ccccttgcg gagcagcccg
420
aggggccttg gggaaccttt gagattaaag tctnatgaaa tcgatgacgt ggagcgcctg
480
cagcggcgac gagggggtgc agcaaggag gccatgtgct tcaatgcaaa gctgaagatt
540
ctggaacacc gccagcagag gatcgccgag gtccgcgcga agtacgagtg gctgatgaag
600
gagctggagg cgaccaaaca gtatctgatg ctggatccca acaagtggct cagtgaattt
660
gacttggagc aggtttggga gctggattcc ctggagtacc tggaggcact ggagtgtgtg
720
acggagcgcc tggagagccg tgtcaacttc tgcaaggccc atctcatgat gctc
774
```

<210> 4220

<211> 258
<212> PRT
<213> Homo sapiens

<400> 4220
Xaa Gly Arg Ala Pro Ala Pro Val Ala Leu Gln Gln Asp His Ala Pro
 1   5   10   15
Ala Glu Ala Pro Pro Leu Gln Gln Arg Pro Arg Gln Arg Gln Gln Gln
              20   25   30
Arg Ala Glu Arg Gly Ala Pro Ala Gly His Gly Glu Asp Gly Pro Val
          35   40   45
Leu Pro Gln Arg Arg Gln Gln Arg Leu Arg Glu Arg Asp Ala Gly Gln
      50   55   60
Arg Gly His Arg Gln Arg Val Leu Gly Ala Gly Leu His Glu Arg Glu
65   70   75   80
Gln Gln Leu Arg Gly Arg Gln Val Pro Glu Pro Gln Asp Pro Glu Glu
              85   90   95
Thr Leu Gln Ser Arg Phe Ser Glu Thr Glu Ala Tyr Pro Ser Thr Ile
              100   105   110
Pro Gly His Leu Phe Pro Cys Glu Lys Thr Pro Gln Gln His Arg Arg
          115   120   125
Pro Leu Gly Gly Trp Xaa Pro Leu Arg Ser Ser Pro Arg Gly Leu Gly
      130   135   140
Glu Pro Leu Arg Leu Lys Ser Xaa Glu Ile Asp Asp Val Glu Arg Leu
145   150   155   160
Gln Arg Arg Arg Gly Gly Ala Ser Lys Glu Ala Met Cys Phe Asn Ala
                  165   170   175
Lys Leu Lys Ile Leu Glu His Arg Gln Gln Arg Ile Ala Glu Val Arg
              180   185   190
Ala Lys Tyr Glu Trp Leu Met Lys Glu Leu Glu Ala Thr Lys Gln Tyr
          195   200   205
Leu Met Leu Asp Pro Asn Lys Trp Leu Ser Glu Phe Asp Leu Glu Gln
      210   215   220
Val Trp Glu Leu Asp Ser Leu Glu Tyr Leu Glu Ala Leu Glu Cys Val
225   230   235   240
Thr Glu Arg Leu Glu Ser Arg Val Asn Phe Cys Lys Ala His Leu Met
                  245   250   255
Met Leu

<210> 4221
<211> 789
<212> DNA
<213> Homo sapiens

<400> 4221
aatgtgaaga ggattaaaga ataaagaaaa aacaaaaaag tcttatacta aaataagaaa
60
tcagccccat cttggcacag ttctcatgca gaatattgca cccagtgtga actaacgcta
120
gaagcttcaa actgtataaa tttaaatgta tttgcatatt ataaaaataa agataaacat
180
atacatattt tacactagtt atggaacagc aatgaacgtc agtcgatccc tctttcacat
240

3413

ttaacagaac tgaaatctga gtgctctaaa tactgccacc tgtactgtaa ctatggctta
300
tatgtgcacg gaaaacaaaa tccctgagaa gccattcgac tttttttttt tttctttttct
360
tcaagtagcg cgctccttgg aggatcacag ttctgaggtt caggttgtaa aacatttgct
420
ccatgttctc gtccatgctt cccccacca ccccctcccc acctcttccc cagtcgtcca
480
aaaagcaccc tgcaagcacg cgttgtcact caagttcaca gaacacgctg gggtgagtgc
540
agagggtctg ccaggtgcaa aagatggtcc aggtgttcag atgctctctt ttctccatgg
600
aaattccaca gccacaaacg tcactggttt ctgtgctttt caccaacatt cttcccttaa
660
aaattggtgc tcctaaagtc acagtttggg tacagtaaaa atgatggcat aaggaaaaga
720
agcactatct tttccactta attttccaag aaagtatgaa gatacttgga acaggggctg
780
atcacagtc
789

<210> 4222
<211> 127
<212> PRT
<213> Homo sapiens

<400> 4222
Met Ala Tyr Met Cys Thr Glu Asn Lys Ile Pro Glu Lys Pro Phe Asp
 1   5   10   15
Phe Phe Phe Phe Ser Phe Leu Gln Val Ala Arg Ser Leu Glu Asp His
                20   25   30
Ser Ser Glu Val Gln Val Val Lys His Leu Leu His Val Leu Val His
                35   40   45
Ala Ser Pro His His Pro Leu Pro Thr Ser Ser Pro Val Val Gln Lys
        50   55   60
Ala Pro Cys Lys His Ala Leu Ser Leu Lys Phe Thr Glu His Ala Gly
65   70   75   80
Val Ser Ala Glu Gly Leu Pro Gly Ala Lys Asp Gly Pro Gly Val Gln
                85   90   95
Met Leu Ser Phe Leu His Gly Asn Ser Thr Ala Thr Asn Val Thr Gly
                100   105   110
Phe Cys Ala Phe His Gln His Ser Ser Leu Lys Asn Trp Cys Ser
        115   120   125

<210> 4223
<211> 852
<212> DNA
<213> Homo sapiens

<400> 4223
atcctggacc agggctacta ctcggagcga gacacaagca acgtggtacg gcaagtcctg
60
gaggccgtgg cctatttgca ctcactcaag atcgtgcaca ggaatctcaa gctggagaac
120

3414

```
ctggtttact acaaccggct gaagaactcg aagattgtca tcagtgactt ccatctggct
180
aagctagaaa atggcctcat caaggagccc tgtgggaccc ccgaagattt tgcccccaa
240
ggggaaggcc ggcagcggta tggacgccct gtggactgct gggccattgg agtcatcatg
300
tacatcctgc tttcaggcaa tccacctttc tatgaggagg tggaagaaga tgattatgag
360
aaccatgata agaatctctt ccgcaagatc ctggctggtg actatgagtt tgactctcca
420
tattgggatg atatttcgca ggcagccaaa gacctggtca caaggctgat ggaggtggag
480
caagaccagc ggatcactgc agaagaggcc atctcccatg agtggatttc tggcaatgct
540
gcttctgata gaacatcaa ggatggtgtc tgtgcccaga ttgaaaagaa ctttgccagg
600
gccaagtgga agaaggctgt ccgagtgacc accctcatga acggctccg ggcaccagag
660
cagtccagca cggctgcagc ccagtcggcc tcagccacag acactgccac ccccgggget
720
gcagaccgta gtgccacccc agccacagat ggaagtgcca ccccagccac tgatggcagt
780
gtcaccccag ccaccgatgg aagcatcact ccagccattg atgggagtgt cacccagcc
840
actgacagga gc
852
```

```
<210> 4224
<211> 284
<212> PRT
<213> Homo sapiens
```

```
<400> 4224
Ile Leu Asp Gln Gly Tyr Tyr Ser Glu Arg Asp Thr Ser Asn Val Val
 1               5                  10                  15
Arg Gln Val Leu Glu Ala Val Ala Tyr Leu His Ser Leu Lys Ile Val
            20                  25                  30
His Arg Asn Leu Lys Leu Glu Asn Leu Val Tyr Tyr Asn Arg Leu Lys
        35                  40                  45
Asn Ser Lys Ile Val Ile Ser Asp Phe His Leu Ala Lys Leu Glu Asn
    50                  55                  60
Gly Leu Ile Lys Glu Pro Cys Gly Thr Pro Glu Asp Phe Ala Pro Gln
 65                  70                  75                  80
Gly Glu Gly Arg Gln Arg Tyr Gly Arg Pro Val Asp Cys Trp Ala Ile
                85                  90                  95
Gly Val Ile Met Tyr Ile Leu Leu Ser Gly Asn Pro Pro Phe Tyr Glu
                100                 105                 110
Glu Val Glu Glu Asp Asp Tyr Glu Asn His Asp Lys Asn Leu Phe Arg
            115                 120                 125
Lys Ile Leu Ala Gly Asp Tyr Glu Phe Asp Ser Pro Tyr Trp Asp Asp
        130                 135                 140
Ile Ser Gln Ala Ala Lys Asp Leu Val Thr Arg Leu Met Glu Val Glu
145                 150                 155                 160
Gln Asp Gln Arg Ile Thr Ala Glu Glu Ala Ile Ser His Glu Trp Ile
```

3415

```
                  165                    170                    175
Ser Gly Asn Ala Ala Ser Asp Lys Asn Ile Lys Asp Gly Val Cys Ala
              180                    185                    190
Gln Ile Glu Lys Asn Phe Ala Arg Ala Lys Trp Lys Lys Ala Val Arg
          195                    200                    205
Val Thr Thr Leu Met Lys Arg Leu Arg Ala Pro Glu Gln Ser Ser Thr
      210                    215                    220
Ala Ala Ala Gln Ser Ala Ser Ala Thr Asp Thr Ala Thr Pro Gly Ala
225                    230                    235                    240
Ala Asp Arg Ser Ala Thr Pro Ala Thr Asp Gly Ser Ala Thr Pro Ala
              245                    250                    255
Thr Asp Gly Ser Val Thr Pro Ala Thr Asp Gly Ser Ile Thr Pro Ala
          260                    265                    270
Ile Asp Gly Ser Val Thr Pro Ala Thr Asp Arg Ser
      275                    280
```

```
<210> 4225
<211> 470
<212> DNA
<213> Homo sapiens


<400> 4225
nntgtacaag aaagtgagcc agtcatcgtc aatattcaag tgatggatgc aaatgataac
60
acgccaacct tccctgaaat atcctatgat gtgtatgttt atacagacat gagacctggg
120
gacagggtcc tacagttaac tgcagtcgac gcagacgaag ggtcaaatgg ggagatcaca
180
tatgaaatcc ttgttggggc tcagggagac ttcatcatca ataaacaac agggcttatc
240
accatcgctc caggggtgga aatgatagtc gggcggactt acgcactccc ggtccaagca
300
gcggataatg ctcctcctgc aaagcaaagg actcccatct gcactgtgta tattgaagtg
360
cttccaccaa ataatcaaag ccctcctcgc ttcccacagc tgatgtatag ccttgaaatt
420
agtgaagcca tgagggttgg tgctgtttta ttaaatctac aggcaactga
470


<210> 4226
<211> 156
<212> PRT
<213> Homo sapiens


<400> 4226
Xaa Val Gln Glu Ser Glu Pro Val Ile Val Asn Ile Gln Val Met Asp
1                    5                    10                    15
Ala Asn Asp Asn Thr Pro Thr Phe Pro Glu Ile Ser Tyr Asp Val Tyr
              20                    25                    30
Val Tyr Thr Asp Met Arg Pro Gly Asp Arg Val Leu Gln Leu Thr Ala
          35                    40                    45
Val Asp Ala Asp Glu Gly Ser Asn Gly Glu Ile Thr Tyr Glu Ile Leu
      50                    55                    60
Val Gly Ala Gln Gly Asp Phe Ile Ile Asn Lys Thr Thr Gly Leu Ile
```

```
65                  70                  75                  80
Thr Ile Ala Pro Gly Val Glu Met Ile Val Gly Arg Thr Tyr Ala Leu
                85                  90                  95
Pro Val Gln Ala Ala Asp Asn Ala Pro Pro Ala Lys Gln Arg Thr Pro
                100                 105                 110
Ile Cys Thr Val Tyr Ile Glu Val Leu Pro Pro Asn Asn Gln Ser Pro
                115                 120                 125
Pro Arg Phe Pro Gln Leu Met Tyr Ser Leu Glu Ile Ser Glu Ala Met
    130                 135                 140
Arg Val Gly Ala Val Leu Leu Asn Leu Gln Ala Thr
145                 150                 155
```

```
<210> 4227
<211> 1199
<212> DNA
<213> Homo sapiens
```

```
<400> 4227
nnaagcttat ggccagtgtt aatttgttat ttcttaaata actttccctt tcatttttaa
60
attataaatt taacttctaa catgttttat ggttaaaatt gtactttttt cctttagcga
120
cattcaaatg catcacaatc actttgtgaa attgttcgcc tgagcagaga ccagatgtta
180
caaattcaga acagtacaga gcccgacccc ctgcttgcca ctctagaaaa gcaagaaatt
240
atagagcagc ttctatcaaa tattttccac aaggagaaaa atgagtcagc catagtcagt
300
gcaatccaga tattgctgac tttacttgag acacgacgac caacatttga aggccatata
360
gagatctgcc caccaggcat gagccattca gcttgttcag taaacaagag tgttctagaa
420
gccatcagag gaagacttgg atcttttcat gaactcctgc tggagccacc caagaaaagt
480
gtgatgaaga ccacatgggg tgtgctggat cctcctgtgg ggaatacccg gttgaatgtc
540
attaggttga tatccagcct gcttcaaacc aataccagca gtataaatgg ggaccttatg
600
gagctgaata gcattggagt catattgaac atgttcttca gtatacatg gaataacttt
660
ttgcatacac aagtggaaat ttgtattgca ctgattcttg caagtccttt tgaaaacaca
720
gaaaatgcca caattaccga tcaagactcc actggtgata atttgttatt aaaacatctt
780
ttccaaaaat gtcaattaat agaacgaata cttgaagcct gggaaatgaa tgagaagaaa
840
caggctgagg gaggaagacg gcatggttac atgggacacc taacgaggat agctaactgt
900
atcgtgcaca gcactgacaa gggccccaac agtgcattag tgcagcagct tatcaaaggt
960
aagttatttg tgaaatttga attacatttt tgttgggttg caggaaggat ttaagggtca
1020
agtagaaatg catgtagcat ttttaatagt gatttgtggg acttctttat atttggcaaa
1080
```

ttatgtattt gaatgaggtt cttgagaatg tgtttgaaca gggttgtttt ttgggttgta
1140
ttttatgttc atgtagttac agaccattcc ataagcattg gcaggcttgg ctggattca
1199

<210> 4228
<211> 298
<212> PRT
<213> Homo sapiens

<400> 4228

Arg	His	Ser	Asn	Ala	Ser	Gln	Ser	Leu	Cys	Glu	Ile	Val	Arg	Leu	Ser
1				5					10					15	

Arg	Asp	Gln	Met	Leu	Gln	Ile	Gln	Asn	Ser	Thr	Glu	Pro	Asp	Pro	Leu
		20					25					30			

Leu	Ala	Thr	Leu	Glu	Lys	Gln	Glu	Ile	Ile	Glu	Gln	Leu	Leu	Ser	Asn
		35				40					45				

Ile	Phe	His	Lys	Glu	Lys	Asn	Glu	Ser	Ala	Ile	Val	Ser	Ala	Ile	Gln
	50					55					60				

Ile	Leu	Leu	Thr	Leu	Leu	Glu	Thr	Arg	Arg	Pro	Thr	Phe	Glu	Gly	His
65					70					75					80

Ile	Glu	Ile	Cys	Pro	Pro	Gly	Met	Ser	His	Ser	Ala	Cys	Ser	Val	Asn
				85					90					95	

Lys	Ser	Val	Leu	Glu	Ala	Ile	Arg	Gly	Arg	Leu	Gly	Ser	Phe	His	Glu
				100					105					110	

Leu	Leu	Leu	Glu	Pro	Pro	Lys	Lys	Ser	Val	Met	Lys	Thr	Thr	Trp	Gly
		115					120					125			

Val	Leu	Asp	Pro	Pro	Val	Gly	Asn	Thr	Arg	Leu	Asn	Val	Ile	Arg	Leu
	130					135					140				

Ile	Ser	Ser	Leu	Leu	Gln	Thr	Asn	Thr	Ser	Ser	Ile	Asn	Gly	Asp	Leu
145					150					155					160

Met	Glu	Leu	Asn	Ser	Ile	Gly	Val	Ile	Leu	Asn	Met	Phe	Phe	Lys	Tyr
				165					170					175	

Thr	Trp	Asn	Asn	Phe	Leu	His	Thr	Gln	Val	Glu	Ile	Cys	Ile	Ala	Leu
			180					185					190		

Ile	Leu	Ala	Ser	Pro	Phe	Glu	Asn	Thr	Glu	Asn	Ala	Thr	Ile	Thr	Asp
		195					200					205			

Gln	Asp	Ser	Thr	Gly	Asp	Asn	Leu	Leu	Leu	Lys	His	Leu	Phe	Gln	Lys
	210					215					220				

Cys	Gln	Leu	Ile	Glu	Arg	Ile	Leu	Glu	Ala	Trp	Glu	Met	Asn	Glu	Lys
225				230					235					240	

Lys	Gln	Ala	Glu	Gly	Gly	Arg	Arg	His	Gly	Tyr	Met	Gly	His	Leu	Thr
			245					250					255		

Arg	Ile	Ala	Asn	Cys	Ile	Val	His	Ser	Thr	Asp	Lys	Gly	Pro	Asn	Ser
			260					265					270		

Ala	Leu	Val	Gln	Gln	Leu	Ile	Lys	Gly	Lys	Leu	Phe	Val	Lys	Phe	Glu
		275					280					285			

Leu	His	Phe	Cys	Trp	Val	Ala	Gly	Arg	Ile
	290					295			

<210> 4229
<211> 1612
<212> DNA
<213> Homo sapiens

                                3418

```
<400> 4229
ncggggtct ccatcctgga ccaggacctg gactacctgt ccgaaggcct cgaaggccga
60
tcccaaagcc ccgtggccct gctctttgat gcccttctac gcccagacac agactttggg
120
ggaaacatga agtcggtcct cacctggaag caccggaagg agcacgccat cccccacgtg
180
gttctgggcc ggaacctccc cggggggagcc tggcactcca tcgaaggctc catggtgatc
240
ctgagccaag gccagtggat ggggctcccg gacctggagg tcaaggactg gatgcagaag
300
aagcgaagag gtcttcgcaa cagccgggcc actgccgggg acatcgccca ctactacagg
360
gactacgtgg tcaagaaggg tctggggcat aactttgtgt ccggtgctgt agtcacagcc
420
gtggagtggg ggacccccga tcccagcagc tgtggggccc aggactccag ccccctcttc
480
caggtgagcg gcttcctgac caggaaccag gcccagcagc ccttctcgct gtgggcccgc
540
aacgtggtcc tcgccacagg cacgttcgac agcccggccc ggctgggcat ccccgggggag
600
gccctgccct tcatccacca tgagctgtct gccctggagg ccgccacaag ggtgggtgcg
660
gtgacccecgg cctcagaccc tgtcctcatc attggcgcgg ggctgtcagc ggccgacgcc
720
gtcctctacg cccgccacta caacatcccg gtgatccatg ccttccgccg ggccgtggac
780
gaccctggcc tggtgttcaa ccagctgccc aagatgctgt accccgagta ccacaaggtg
840
caccagatga tgcgggagca gtccatcctg tcgcccagcc cctatgaggg ttaccgcagc
900
ctccccaggc accagctgct gtgcttcaag gaagactgcc aggccgtgtt ccaggacctc
960
gagggtgtcg agaaggtgtt tggggtctcc ctggtgctgg tcctcatcgg ctcccacccc
1020
gacctctcct tcctgcctgg ggcaggggct gactttgcag tggatcctga ccagccgctg
1080
agcgccaaga ggaaccccat tgacgtggac cccttcacct accagagcac ccgccaggag
1140
ggcctgtacg ccatggggcc gctggccggg gacaacttcg tgaggtttgt gcaggggggc
1200
gccttggctg tggccagctc cctgctaagg aaggagacca ggaagccacc ctaacactcg
1260
gccagacccg ctggctccca ggccctgaga ggacagagat gaccacatcc ctgctggatg
1320
caggacccgt ccaaagatgc cccgggggagg ggtgtcagcc cacgttgctg gcctttgggg
1380
tcaagaggag tagggatccc aggctgccct ggacttagac cagtgtctga ggttggactt
1440
agaccagtgt gtgaggtggt aacagcggcc gcagcagggg gttggcctag acctgggatt
1500
tgtggggaaa gctgctggtg tgaccagctg agcacccagc caggagacct gcagccctgc
1560
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gccttccaga agcaggtccc aaataaagcc agtgcccacc tgaaaaaaaa aa
1612

<210> 4230
<211> 417
<212> PRT
<213> Homo sapiens

<400> 4230
Xaa Gly Val Ser Ile Leu Asp Gln Asp Leu Asp Tyr Leu Ser Glu Gly
1   5   10   15
Leu Glu Gly Arg Ser Gln Ser Pro Val Ala Leu Leu Phe Asp Ala Leu
            20   25   30
Leu Arg Pro Asp Thr Asp Phe Gly Gly Asn Met Lys Ser Val Leu Thr
        35   40   45
Trp Lys His Arg Lys Glu His Ala Ile Pro His Val Val Leu Gly Arg
    50   55   60
Asn Leu Pro Gly Gly Ala Trp His Ser Ile Glu Gly Ser Met Val Ile
65   70   75   80
Leu Ser Gln Gly Gln Trp Met Gly Leu Pro Asp Leu Glu Val Lys Asp
                85   90   95
Trp Met Gln Lys Lys Arg Arg Gly Leu Arg Asn Ser Arg Ala Thr Ala
                100   105   110
Gly Asp Ile Ala His Tyr Tyr Arg Asp Tyr Val Val Lys Lys Gly Leu
            115   120   125
Gly His Asn Phe Val Ser Gly Ala Val Val Thr Ala Val Glu Trp Gly
        130   135   140
Thr Pro Asp Pro Ser Ser Cys Gly Ala Gln Asp Ser Ser Pro Leu Phe
145   150   155   160
Gln Val Ser Gly Phe Leu Thr Arg Asn Gln Ala Gln Gln Pro Phe Ser
                165   170   175
Leu Trp Ala Arg Asn Val Val Leu Ala Thr Gly Thr Phe Asp Ser Pro
                180   185   190
Ala Arg Leu Gly Ile Pro Gly Glu Ala Leu Pro Phe Ile His His Glu
            195   200   205
Leu Ser Ala Leu Glu Ala Ala Thr Arg Val Gly Ala Val Thr Pro Ala
    210   215   220
Ser Asp Pro Val Leu Ile Ile Gly Ala Gly Leu Ser Ala Ala Asp Ala
225   230   235   240
Val Leu Tyr Ala Arg His Tyr Asn Ile Pro Val Ile His Ala Phe Arg
                245   250   255
Arg Ala Val Asp Asp Pro Gly Leu Val Phe Asn Gln Leu Pro Lys Met
            260   265   270
Leu Tyr Pro Glu Tyr His Lys Val His Gln Met Met Arg Glu Gln Ser
        275   280   285
Ile Leu Ser Pro Ser Pro Tyr Glu Gly Tyr Arg Ser Leu Pro Arg His
        290   295   300
Gln Leu Leu Cys Phe Lys Glu Asp Cys Gln Ala Val Phe Gln Asp Leu
305   310   315   320
Glu Gly Val Glu Lys Val Phe Gly Val Ser Leu Val Leu Val Leu Ile
                325   330   335
Gly Ser His Pro Asp Leu Ser Phe Leu Pro Gly Ala Gly Ala Asp Phe
            340   345   350
Ala Val Asp Pro Asp Gln Pro Leu Ser Ala Lys Arg Asn Pro Ile Asp

3420

```
          355                   360                   365
Val Asp Pro Phe Thr Tyr Gln Ser Thr Arg Gln Glu Gly Leu Tyr Ala
          370                   375                   380
Met Gly Pro Leu Ala Gly Asp Asn Phe Val Arg Phe Val Gln Gly Gly
385                   390                   395                   400
Ala Leu Ala Val Ala Ser Ser Leu Leu Arg Lys Glu Thr Arg Lys Pro
                    405                   410                   415
Pro
```

```
<210> 4231
<211> 1588
<212> DNA
<213> Homo sapiens

<400> 4231
ncgactacag acacagacgg tgccgccgag acttgtgtct cagtacagtg tcagaagcaa
60
attaaagaac ttcgagatca aattgtatct gttcaggagg aaaagaagat tttagccatt
120
gagctggaaa atctcaagag caaactcgta gaagtaattg aagaagtaaa taaagttaaa
180
caagaaaaga ctgttttaaa ttcagaagtt cttgaacaga gaaaagtctt agaaaaatgc
240
aatagagtgt ccatgttagc tgtagaagag tatgaggaga tgcaagtaaa cctggagctg
300
gagaaggacc ttcgaaagaa agcagagtca tttgcccaag agatgttcct tgagccaaac
360
cagggtaaaa agacaaagcc ccccttgggg cggcagagtt ccatccttga tcagcagtta
420
gctttagacg aaaatgcaaa actcacccag caacttgaag aagagagaat tcagcatcaa
480
caaaaggtca agaattaga agagcaacta gaaaatgaaa cactccacaa agaaatacac
540
aacctcaaac agcaactgga gcttctagag gaagataaaa aggaattgga attgaaatat
600
cagaattctg aagagaaagc cagaaattta aagcactctg ttgatgaact ccagaaacga
660
gtgaaccagt ctgagaattc agtacctcca ccacctcctc ctccaccacc acttcccccct
720
ccacctccca atcctatccg atccctcatg tccatgatcc ggaaacgatc ccaccccagt
780
ggcagtggtg ctaagaaaga aaaggcaact caaccagaaa caactgaaga agtcacagat
840
ctaaagaggc aagcagttga agagatgatg gatagaatta aaaagggagt tcatcttaga
900
cccgttaatc agacagccag accgaagaca aagccagaat cttcgaaagg ctgcgaaagt
960
gcagtggatg aactaaaagg aatactgggg acacttaaca aatccactag ttcaagaagc
1020
ttaaaatccc ttgaccctga aaacagtgaa actgagttag aaaggatttt gcgtcgcaga
1080
aaggtgacag cagaagcaga tagcagtagt ccaactggga tattagccac ctcagagtcc
1140
```

```
aaatccatgc cagtgttggg ttctgtatcc agtgtaacaa aaacagcctt gaacaagaaa
1200
actctggagg cagaattcaa cagcccgtcc cccccaacac ctgagccagg tgaagggccc
1260
cgtaaattgg aaggatgcac aagttccaag gttacgtttc agtaagtaac gatgctcttt
1320
actaagtggt gtatagaaga atctgtaatg actaacttgt gtgtttcttt gatttgtttc
1380
ctttagagag attttgattg gctcgccggt aaattctctt cttcttttca tttgatgggc
1440
cagctttttc attctaggct cctagataag agatctaatt aagatccaaa gcaagtacca
1500
tgtacaaaga gaattacttc ccctaaactg gtttggtaat caggttctta tacacaaata
1560
attgatctgg atgatacaga ctctgcag
1588
```

```
<210> 4232
<211> 434
<212> PRT
<213> Homo sapiens
```

```
<400> 4232
Xaa Thr Thr Asp Thr Asp Gly Ala Ala Glu Thr Cys Val Ser Val Gln
  1               5                  10                  15
Cys Gln Lys Gln Ile Lys Glu Leu Arg Asp Gln Ile Val Ser Val Gln
             20                  25                  30
Glu Glu Lys Lys Ile Leu Ala Ile Glu Leu Glu Asn Leu Lys Ser Lys
             35                  40                  45
Leu Val Glu Val Ile Glu Glu Val Asn Lys Val Lys Gln Glu Lys Thr
         50                  55                  60
Val Leu Asn Ser Glu Val Leu Glu Gln Arg Lys Val Leu Glu Lys Cys
65                  70                  75                  80
Asn Arg Val Ser Met Leu Ala Val Glu Glu Tyr Glu Glu Met Gln Val
                 85                  90                  95
Asn Leu Glu Leu Glu Lys Asp Leu Arg Lys Lys Ala Glu Ser Phe Ala
             100                 105                 110
Gln Glu Met Phe Leu Glu Pro Asn Gln Gly Lys Lys Thr Lys Pro Pro
         115                 120                 125
Phe Gly Arg Gln Ser Ser Ile Leu Asp Gln Gln Leu Ala Leu Asp Glu
     130                 135                 140
Asn Ala Lys Leu Thr Gln Gln Leu Glu Glu Glu Arg Ile Gln His Gln
145                 150                 155                 160
Gln Lys Val Lys Glu Leu Glu Glu Gln Leu Glu Asn Glu Thr Leu His
                 165                 170                 175
Lys Glu Ile His Asn Leu Lys Gln Gln Leu Glu Leu Leu Glu Glu Asp
             180                 185                 190
Lys Lys Glu Leu Glu Leu Lys Tyr Gln Asn Ser Glu Glu Lys Ala Arg
         195                 200                 205
Asn Leu Lys His Ser Val Asp Glu Leu Gln Lys Arg Val Asn Gln Ser
     210                 215                 220
Glu Asn Ser Val Pro Pro Pro Pro Pro Pro Pro Pro Leu Pro Pro
225                 230                 235                 240
Pro Pro Pro Asn Pro Ile Arg Ser Leu Met Ser Met Ile Arg Lys Arg
```

3422

```
                  245                     250                     255
Ser His Pro Ser Gly Ser Gly Ala Lys Lys Glu Lys Ala Thr Gln Pro
              260             265                     270
Glu Thr Thr Glu Glu Val Thr Asp Leu Lys Arg Gln Ala Val Glu Glu
          275                 280                 285
Met Met Asp Arg Ile Lys Lys Gly Val His Leu Arg Pro Val Asn Gln
      290                 295                 300
Thr Ala Arg Pro Lys Thr Lys Pro Glu Ser Ser Lys Gly Cys Glu Ser
305                 310                 315                     320
Ala Val Asp Glu Leu Lys Gly Ile Leu Gly Thr Leu Asn Lys Ser Thr
              325                 330                     335
Ser Ser Arg Ser Leu Lys Ser Leu Asp Pro Glu Asn Ser Glu Thr Glu
              340                 345                 350
Leu Glu Arg Ile Leu Arg Arg Arg Lys Val Thr Ala Glu Ala Asp Ser
          355                 360                 365
Ser Ser Pro Thr Gly Ile Leu Ala Thr Ser Glu Ser Lys Ser Met Pro
      370                 375                 380
Val Leu Gly Ser Val Ser Ser Val Thr Lys Thr Ala Leu Asn Lys Lys
385                 390                 395                     400
Thr Leu Glu Ala Glu Phe Asn Ser Pro Ser Pro Pro Thr Pro Glu Pro
              405                 410                     415
Gly Glu Gly Pro Arg Lys Leu Glu Gly Cys Thr Ser Ser Lys Val Thr
              420                 425                 430
Phe Gln
```

<210> 4233
<211> 2827
<212> DNA
<213> Homo sapiens

<400> 4233
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ggatccctga aaggagacca tatactgtac catttgatac tcatttgggg cattatattt
60
atatcccatc aagacaagat tccaggaggg ggaatcactt gcaaggtcca cacaagtccg
120
cctatgtact ctctggatcg aatatttgct ggatttcgaa cacgaagtca gatgctgttg
180
ggtcacatag aagaacaaga taaggtcctc cactgccaat tttctgataa cagtgatgat
240
gaagaatcag aaggccaaga gaaatctgga actagatgta gaagtcgttc atggattcag
300
aagccagact ctgtttgttc ccttgttgaa ttgagtgata ctcaggatga aacacaaaag
360
tcagatttgg agaatgaaga tttaaagatt gattgtctcc aggagagtca agaattgaat
420
ttgcaaaaat taaagaattc agaacgcata cttactgaag ccaaacaaaa aatgagagaa
480
cttacagtta acatcaagat gaaggaagat ctgattaaag aattaataaa aacaggtaac
540
gatgccaagt ctgtaagcaa gcagtatact ttgaaagtaa caaagctaga gcatgatgca
600
gaacaggcaa aagtcgaact aactgaaaca caaaagcagc tacaggagct ggaaaacaaa
660
```

3423

gatctttctg atgttgcaat gaaggtaaaa ttacagaaag agtttcgtaa aaaggtggat
720

gctgcaaagc tgagagttca ggtcttacag aagaagcaac aagatagtaa gaaactggca
780

tcactgtcaa tccaaaatga gaaacgtgct aatgaactag agcagagtgt agatcacatg
840

aaatatcaaa agatacagct acaaagaaaa ctacgagaag aaaatgaaaa aaggaagcaa
900

ctggatgcag taattaagcg ggaccagcaa aaaatcaaag taatacaatt aaaaacagga
960

caggaagaag gtctaaaacc gaaagctgag gaccttgatg catgtaactt gaaaaggaga
1020

aaaggttcgt ttggaagtat agaccatctc cagaaattgg atgagcaaaa gaaatggtta
1080

gatgaagaag tagagaaagt tctgaaccaa cgccaagaat tagaggagct ggaagcagac
1140

ttaaagaaac gggaggccat agtttctaag aaggaggctc tgttacagga gaagagtcac
1200

ctggaaaata agaaattgag atctagtcag gccttaaaca cagatagttt gaaaatatca
1260

actcgcctga acttactgga acaagagttg tctgaaaaga atgtgcagct ccagaccagt
1320

acagctgagg agaaaacaaa gatttcagaa caagttgaag tcctccagaa agaaaaggat
1380

cagctccaga aacgcagaca cgatgtggat gaaaaactta aaaatggtag agtgttatca
1440

cctgaagaag aacatgttct tttccaactt gaagaaggga tagaagcttt ggaagctgca
1500

attgaataca ggaatgaaag tatccagaat cgccagaagt cacttagagc atcattccat
1560

aacctctctc gtggtgaagc aaatgtcttg gaaaagctag cttgcctgag tcctgttgag
1620

attagaacta ttcttttcag atatttcaat aaggtggtga atttgcgaga agctgaacgg
1680

aaacaacagt tatataatga agaaatgaaa atgaaagttc tggaacggga taatatggtt
1740

cgtgaattag aatctgcact ggaccatcta aaattgcagt gtgaccggag actgaccctc
1800

cagcaaaagg aacacgaaca aaagatgcag ttgctattac atcatttcaa agaacaagat
1860

ggagaaggca ttatggaaac tttcaaaaca tatgaagata aaatccagca gttggaaaaa
1920

gatctttatt tctataagaa aaccagccgg gatcataaga agaaacttaa ggaactggta
1980

ggggaagcaa ttcggcggca actagcatca tcagagtatc aagaggctgg agatggagtc
2040

ctgaagccag aaggaggagg catgctttca gaagaattaa aatgggcatc cagacctgaa
2100

agtatgaaat taagtggaag agaaagagaa atggacagtt cagcaagcag cttaagaaca
2160

cagccaaatc ctcaaaagct ctgggaagat atcccagaat tacctccaat tcatagttct
2220

ttagcacccc ccagtgggca tatgttaggt aatgagaata aaacagaaac agatgataat
2280

```
cagtttacaa aatctcacag tcgactgtca tcccaaattc aggttgtggg aaatgtggga
2340
cgacttcatg gtgtcacacc tgtaaaactg tgtcgaaaag aattacgtca aatttccgcc
2400
ttggaactat cattgcgacg ttccagtctt ggagttggca ttggatcaat ggctgctgat
2460
tccatcgaag tatctaggaa accaagggac ttaaaaactt agacattgaa taatagaact
2520
tttagtagat atgtaaaaag attccttttt ctaacctgtt aaaaactaaa gctcaagttc
2580
actacctctt tcctcagaat aaaggaagaa ggggaggaag gaatccctaa ttcttttata
2640
tgctatagat gtgtacatct tctatatata tttggggagt tttagtttat attcccatag
2700
taatcaaaca tgttttccaa tacttgataa catttaaata tttataaata cgcttaaatg
2760
tttttccagg catatttgaa gattaaaact agtaatagac taaaaaaaaa aaaaaaaaaa
2820
aaaaaag
2827
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`<210> 4234`
`<211> 833`
`<212> PRT`
`<213> Homo sapiens`

`<400> 4234`

```
Gly Ser Leu Lys Gly Asp His Ile Leu Tyr His Leu Ile Leu Ile Trp
 1               5                  10                  15
Gly Ile Ile Phe Ile Ser His Gln Asp Lys Ile Pro Gly Gly Gly Ile
                20                  25                  30
Thr Cys Lys Val His Thr Ser Pro Pro Met Tyr Ser Leu Asp Arg Ile
            35                  40                  45
Phe Ala Gly Phe Arg Thr Arg Ser Gln Met Leu Leu Gly His Ile Glu
        50                  55                  60
Glu Gln Asp Lys Val Leu His Cys Gln Phe Ser Asp Asn Ser Asp Asp
65                  70                  75                  80
Glu Glu Ser Glu Gly Gln Glu Lys Ser Gly Thr Arg Cys Arg Ser Arg
                85                  90                  95
Ser Trp Ile Gln Lys Pro Asp Ser Val Cys Ser Leu Val Glu Leu Ser
                100                 105                 110
Asp Thr Gln Asp Glu Thr Gln Lys Ser Asp Leu Glu Asn Glu Asp Leu
            115                 120                 125
Lys Ile Asp Cys Leu Gln Glu Ser Gln Glu Leu Asn Leu Gln Lys Leu
        130                 135                 140
Lys Asn Ser Glu Arg Ile Leu Thr Glu Ala Lys Gln Lys Met Arg Glu
145                 150                 155                 160
Leu Thr Val Asn Ile Lys Met Lys Glu Asp Leu Ile Lys Glu Leu Ile
                165                 170                 175
Lys Thr Gly Asn Asp Ala Lys Ser Val Ser Lys Gln Tyr Thr Leu Lys
                180                 185                 190
Val Thr Lys Leu Glu His Asp Ala Glu Gln Ala Lys Val Glu Leu Thr
            195                 200                 205
Glu Thr Gln Lys Gln Leu Gln Glu Leu Glu Asn Lys Asp Leu Ser Asp
```

3425

```
              210                   215                   220
Val Ala Met Lys Val Lys Leu Gln Lys Glu Phe Arg Lys Lys Val Asp
225                   230                   235                   240
Ala Ala Lys Leu Arg Val Gln Val Leu Gln Lys Lys Gln Gln Asp Ser
                  245                   250                   255
Lys Lys Leu Ala Ser Leu Ser Ile Gln Asn Glu Lys Arg Ala Asn Glu
              260                   265                   270
Leu Glu Gln Ser Val Asp His Met Lys Tyr Gln Lys Ile Gln Leu Gln
              275                   280                   285
Arg Lys Leu Arg Glu Glu Asn Glu Lys Arg Lys Gln Leu Asp Ala Val
          290                   295                   300
Ile Lys Arg Asp Gln Gln Lys Ile Lys Val Ile Gln Leu Lys Thr Gly
305                   310                   315                   320
Gln Glu Glu Gly Leu Lys Pro Lys Ala Glu Asp Leu Asp Ala Cys Asn
                  325                   330                   335
Leu Lys Arg Arg Lys Gly Ser Phe Gly Ser Ile Asp His Leu Gln Lys
                  340                   345                   350
Leu Asp Glu Gln Lys Lys Trp Leu Asp Glu Glu Val Glu Lys Val Leu
              355                   360                   365
Asn Gln Arg Gln Glu Leu Glu Glu Leu Glu Ala Asp Leu Lys Lys Arg
          370                   375                   380
Glu Ala Ile Val Ser Lys Lys Glu Ala Leu Leu Gln Glu Lys Ser His
385                   390                   395                   400
Leu Glu Asn Lys Lys Leu Arg Ser Ser Gln Ala Leu Asn Thr Asp Ser
                  405                   410                   415
Leu Lys Ile Ser Thr Arg Leu Asn Leu Leu Glu Gln Glu Leu Ser Glu
                  420                   425                   430
Lys Asn Val Gln Leu Gln Thr Ser Thr Ala Glu Glu Lys Thr Lys Ile
              435                   440                   445
Ser Glu Gln Val Glu Val Leu Gln Lys Glu Lys Asp Gln Leu Gln Lys
          450                   455                   460
Arg Arg His Asp Val Asp Glu Lys Leu Lys Asn Gly Arg Val Leu Ser
465                   470                   475                   480
Pro Glu Glu Glu His Val Leu Phe Gln Leu Glu Glu Gly Ile Glu Ala
                  485                   490                   495
Leu Glu Ala Ala Ile Glu Tyr Arg Asn Glu Ser Ile Gln Asn Arg Gln
              500                   505                   510
Lys Ser Leu Arg Ala Ser Phe His Asn Leu Ser Arg Gly Glu Ala Asn
              515                   520                   525
Val Leu Glu Lys Leu Ala Cys Leu Ser Pro Val Glu Ile Arg Thr Ile
          530                   535                   540
Leu Phe Arg Tyr Phe Asn Lys Val Val Asn Leu Arg Glu Ala Glu Arg
545                   550                   555                   560
Lys Gln Gln Leu Tyr Asn Glu Glu Met Lys Met Lys Val Leu Glu Arg
                  565                   570                   575
Asp Asn Met Val Arg Glu Leu Glu Ser Ala Leu Asp His Leu Lys Leu
              580                   585                   590
Gln Cys Asp Arg Arg Leu Thr Leu Gln Gln Lys Glu His Glu Gln Lys
              595                   600                   605
Met Gln Leu Leu Leu His His Phe Lys Glu Gln Asp Gly Glu Gly Ile
          610                   615                   620
Met Glu Thr Phe Lys Thr Tyr Glu Asp Lys Ile Gln Gln Leu Glu Lys
625                   630                   635                   640
Asp Leu Tyr Phe Tyr Lys Lys Thr Ser Arg Asp His Lys Lys Lys Leu
```

```
                    645                    650                    655
Lys Glu Leu Val Gly Glu Ala Ile Arg Arg Gln Leu Ala Ser Ser Glu
             660                    665                    670
Tyr Gln Glu Ala Gly Asp Gly Val Leu Lys Pro Glu Gly Gly Gly Met
         675                    680                    685
Leu Ser Glu Glu Leu Lys Trp Ala Ser Arg Pro Glu Ser Met Lys Leu
     690                    695                    700
Ser Gly Arg Glu Arg Glu Met Asp Ser Ser Ala Ser Ser Leu Arg Thr
 705                    710                    715                    720
Gln Pro Asn Pro Gln Lys Leu Trp Glu Asp Ile Pro Glu Leu Pro Pro
                 725                    730                    735
Ile His Ser Ser Leu Ala Pro Pro Ser Gly His Met Leu Gly Asn Glu
             740                    745                    750
Asn Lys Thr Glu Thr Asp Asp Asn Gln Phe Thr Lys Ser His Ser Arg
         755                    760                    765
Leu Ser Ser Gln Ile Gln Val Val Gly Asn Val Gly Arg Leu His Gly
     770                    775                    780
Val Thr Pro Val Lys Leu Cys Arg Lys Glu Leu Arg Gln Ile Ser Ala
 785                    790                    795                    800
Leu Glu Leu Ser Leu Arg Arg Ser Ser Leu Gly Val Gly Ile Gly Ser
                 805                    810                    815
Met Ala Ala Asp Ser Ile Glu Val Ser Arg Lys Pro Arg Asp Leu Lys
             820                    825                    830
Thr
```

```
<210> 4235
<211> 971
<212> DNA
<213> Homo sapiens

<400> 4235
ngacagcgag cgggggcgac ttgccaataa agttaggctc caacagctgc tgttgccacc
60
accactagtt caagcaccat gcagtttacc tcaatatcaa attctttgac ctccactgct
120
gctattgggc tctcatttac aacttcaacg actaccaccg ccactttcac caccaacact
180
actaccacaa tcaccagtgg ctttactgtg aaccaaaacc aactgttatc aagagggttt
240
gaaaccttg taccttatac ttcaactgtt agtgtagtag caactcctgt gatgacatat
300
ggtcatctgg agggtcttat aaatgagtgg aaccttgagc tggaagatca agagaagtac
360
tttcttctcc aggccactca ggtcaatgct tgggaccata cattgattga gaatggtgag
420
atgattcgta ttttacatgg agaagtgaac aaagtgaaac tggatcagaa aagattggaa
480
caagaattgg attttatcct gtcacagcag caggaactag aatttctgtt gacttattta
540
gaggagtcta cgcgtgacca gagtggactt cattatctgc aggatgcaga tgaggagcat
600
gtggagatct ccaccagatc tgcagaattc tgaatgccca tatggactcc ctgcagtgga
660
```

ttgatcggaa ttcaggcatg ctgcgaagga aggtagaagt ggtaacacgg gttttcgagg
720
attatcgtca cgaggagcat gcacacaatg tcaacactgc tttttagtga atgaccatat
780
cttcagcatg tcgtttctgg attattacct acaaattctg atgttaaata gagtagtatt
840
tatacttaat atttcatctt gatcataatg aattgtgcat cctttttttc atttaagtat
900
tgtactgttg agaattatac cttagttttg tttttagtat tagaaaatca aaattatact
960
agcccctttg t
971

<210> 4236
<211> 198
<212> PRT
<213> Homo sapiens

<400> 4236
Ala Pro Thr Ala Ala Val Ala Thr Thr Thr Ser Ser Ser Thr Met Gln
 1   5   10   15
Phe Thr Ser Ile Ser Asn Ser Leu Thr Ser Thr Ala Ala Ile Gly Leu
            20   25   30
Ser Phe Thr Thr Ser Thr Thr Thr Thr Ala Thr Phe Thr Thr Asn Thr
        35   40   45
Thr Thr Thr Ile Thr Ser Gly Phe Thr Val Asn Gln Asn Gln Leu Leu
    50   55   60
Ser Arg Gly Phe Glu Asn Leu Val Pro Tyr Thr Ser Thr Val Ser Val
65   70   75   80
Val Ala Thr Pro Val Met Thr Tyr Gly His Leu Glu Gly Leu Ile Asn
                85   90   95
Glu Trp Asn Leu Glu Leu Glu Asp Gln Glu Lys Tyr Phe Leu Leu Gln
            100   105   110
Ala Thr Gln Val Asn Ala Trp Asp His Thr Leu Ile Glu Asn Gly Glu
        115   120   125
Met Ile Arg Ile Leu His Gly Glu Val Asn Lys Val Lys Leu Asp Gln
    130   135   140
Lys Arg Leu Glu Gln Glu Leu Asp Phe Ile Leu Ser Gln Gln Gln Glu
145   150   155   160
Leu Glu Phe Leu Leu Thr Tyr Leu Glu Glu Ser Thr Arg Asp Gln Ser
                165   170   175
Gly Leu His Tyr Leu Gln Asp Ala Asp Glu Glu His Val Glu Ile Ser
            180   185   190
Thr Arg Ser Ala Glu Phe
            195

<210> 4237
<211> 560
<212> DNA
<213> Homo sapiens

<400> 4237
cccaggtggc aggctgctgg tggtccctgt ccatgctgtc gacacgcctc acgctgctgc
60

                                      3428

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tgatggtggc cacaccagcc ctgatgggag tgggcaccct gatgggctca ggcctccgaa
120
aattgtctcg ccagtgtcag gagcaggtac cggcattcct ggccatcctc ttcaccctcc
180
ccacaccgtt tctctttcca ctccccggaa ctcctccctg tccccatcct ggactccttg
240
tcctgttttt tggactcctt gtcctgtttc ctggactcct tgcagatcgc cagggcaatg
300
ggcgtagcag acgaggccct gggcaatgtg cggactgtgc gtgccttcgc catggagcaa
360
cgggaagagg agcgctatgg ggcagagctg gaagcctgcc gctgccgagc agaggagctg
420
ggccgcggca tcgccttgtt ccaagggctt ccaacatcg ccttcaactg tgagtgagcc
480
atttgggggc tggaggggcg cttgtgggct ggggaggagc tgggagcagc caaggcaggc
540
aaggccctcc cttcacgcgt
560
```

```
<210> 4238
<211> 124
<212> PRT
<213> Homo sapiens

<400> 4238
Trp Ala Gln Ala Ser Glu Asn Cys Leu Ala Ser Val Arg Ser Arg Tyr
1               5                   10                  15
Arg His Ser Trp Pro Ser Ser Ser Pro Ser Pro His Arg Phe Ser Phe
            20                  25                  30
His Ser Pro Glu Leu Leu Pro Val Pro Ile Leu Asp Ser Leu Ser Cys
        35                  40                  45
Phe Leu Asp Ser Leu Ser Cys Phe Leu Asp Ser Leu Gln Ile Ala Arg
    50                  55                  60
Ala Met Gly Val Ala Asp Glu Ala Leu Gly Asn Val Arg Thr Val Arg
65                  70                  75                  80
Ala Phe Ala Met Glu Gln Arg Glu Glu Glu Arg Tyr Gly Ala Glu Leu
                85                  90                  95
Glu Ala Cys Arg Cys Arg Ala Glu Glu Leu Gly Arg Gly Ile Ala Leu
            100                 105                 110
Phe Gln Gly Leu Ser Asn Ile Ala Phe Asn Cys Glu
            115                 120
```

```
<210> 4239
<211> 3127
<212> DNA
<213> Homo sapiens

<400> 4239
nngaaagggg aaggggagtt gggagaggca cctcaacttt gatgtcccga gccttgagtg
60
gccactcgca agctggccaa gggcttcaca caatttgcca agatgacaga ggggaccaag
120
aagaccagca aaaagttcaa gttcttcaag ttcaagggct ttgggagtct ctccaacctc
180
```

```
cctcggtcct tcactctgag acgatcctca gcttccatca gtaggcagtc ccatttggag
240
cctgacacct ttgaagccac gcaggatgac atggtgacgg tgcccaagag tcccccagcc
300
tatgcccgct ccagtgacat gtacagccac atgggcacca tgcctcgccc cagcatcaag
360
aaagcacaga actcacaggc tgcccggcag gcccaggagg cgggtcccaa gcccaacttg
420
gtacccggag gtgtacccga ccccccaggc ttggaggcag ccaaagaggt gatggtgaag
480
gccactggcc ctctagagga caccccagca atggaaccca acccttcagc agtggaggta
540
gaccccatca gaaagcctga ggtccccaca ggagacgtag aagaggagag acctcccagg
600
gacgtgcact cagaaagggc tgctggagag ccagaggctg gcagcgacta tgtgaagttc
660
tccaaggaga agtacatcct ggactcatcg ccagagaaac tccacaagga attggaggag
720
gagctcaaac tcagcagcac ggatctccgc agccatgcct ggtaccatgg ccgcatcccc
780
cgagaggtct cggagacctt ggtacaacgc aacggcgact tcctcatccg ggactcactc
840
accagcctgg gcgactatgt gctcacgtgc cgctggcgca accaggcctt gcacttcaag
900
atcaacaagg tggtggtgaa ggcaggcgag agctacacac acatccagta cctgtttgag
960
caggagagct ttgaccacgt gcccgccctc gtgcgctatc atgtgggcag ccgcaaggct
1020
gtgtcagagc agagtggtgc catcatctac tgcccggtga accgcacctt cccactgcgc
1080
tacctcgaag ccagctatgg cctgggacag gggagtagca agcctgctag ccccgtcagc
1140
ccctcaggcc ccaagggcag ccacatgaag cggcgcagcg tcaccatgac cgatgggctc
1200
actgctgaca aggtcacccg cagcgatggc tgccccacca gtacgtcgct gccccgccct
1260
cgggactcca tccgcagctg tgccctcagc atggaccaga tcccagacct gcactcaccc
1320
atgtcgccca tctccgagag ccctagctcc cctgcctaca gcactgtaac ccgtgtccat
1380
gccgcccctg cagccccttc tgccacagca ttgcctgcct cccctgtcgc ccgctgttcc
1440
agtgagcccc agctgtgtcc cggaagtgcc ccaaagaccc atggggagtc agacaagggc
1500
ccccacacca gcccctccca cacccttggc aaggcctccc cgtcaccatc actcagcagc
1560
tacagtgacc cggactctgg ccactactgc cagctccagc ctcccgtgcg tggcagccga
1620
gagtgggcag cgactgagac ctccagccag caggccagga gctatgggga gaggctaaag
1680
gaactgtcag aaaatggggc ccctgaaggg gactggggca agaccttcac agtccccatc
1740
gtggaagtca cttcttcctt caacccggcc accttccagt cactactgat ccccagggat
1800
```

```
aaccggccac tggaggtggg ccttctgcgc aaggtcaagg agctgctggc agaagtggat
1860
gcccggacgc tggcccggca tgtcaccaag gtggactgcc tggttgctag gatactgggc
1920
gttaccaagg agatgcagac cctaatggga gtccgctggg gcatggaact gctcaccctc
1980
ccccatggcc ggcagctacg cctagacctg ctggaaaggt tccacaccat gtccatcatg
2040
ctggccgtgg acatcctggg ctgcaccggc tctgcggagg agcgggcagc gctgctgcac
2100
aagaccattc agctggcggc cgagctacgg gggactatgg gcaacatgtt cagcttcgcg
2160
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2220
ctgcggcagc gacacacaga gggtgccatc ctgtacgaga agaagctcaa gccttttctc
2280
aagagcctca cgagggcaa agaaggcccg ccgctgagca acaccacgtt tcctcatgtg
2340
ctgcccctca tcaccctgct ggagtgtgac tcggccccac cagagggccc tgagccctgg
2400
ggcagcacgg agcacggcgt ggaggtggtg ctggctcacc tggaggccgc ccgcacagtg
2460
gcacaccacg gaggcctgta ccacaccaat gctgaagtca agctgcaggg gttccaggcc
2520
cggccggagc tcctggaggt gttcagcacg gagttccaga tgcgccttct ctggggcagt
2580
cagggtgcca gcagcagcca ggcccggcgc tatgagaagt cgacaaggt cctcactgcc
2640
ctgtcccaca agctggaacc tgctgtccgc tccagcgagc tgtgacccca gggacatttc
2700
ccctctgcag ctgcggacag cgtcaggggc agaggggcac acaactttcc ccagagcacc
2760
ccaaggacac tgtgatcaac ccgagaatgt tctgggttca actcaagcat ctcccttgca
2820
cctccagggt cctgcgtgga ctctgggttc catcccacct gctacatgct caccaggtct
2880
ccattgagga agaacaggaa cgccggttcc cccaccagct tttgctgctc cccttcctgc
2940
tggggttccc tgttttcgag ccatgggagg caggctgctc acgcctcctc actctctgtc
3000
tgtccctcac caacaccaag gcctccatct cactgtaaat aagtctctgt tctgtaaata
3060
gatgtacaga agccatgtta tttctttcat ataataaact tttatgactc tttaaaaaaa
3120
aaaaaaa
3127


<210> 4240
<211> 860
<212> PRT
<213> Homo sapiens

<400> 4240
Met Thr Glu Gly Thr Lys Lys Thr Ser Lys Lys Phe Lys Phe Phe Lys
```

```
      1                 5                    10                   15
      Phe Lys Gly Phe Gly Ser Leu Ser Asn Leu Pro Arg Ser Phe Thr Leu
                  20                  25                  30
      Arg Arg Ser Ser Ala Ser Ile Ser Arg Gln Ser His Leu Glu Pro Asp
                  35                  40                  45
      Thr Phe Glu Ala Thr Gln Asp Asp Met Val Thr Val Pro Lys Ser Pro
          50                  55                  60
      Pro Ala Tyr Ala Arg Ser Ser Asp Met Tyr Ser His Met Gly Thr Met
      65                  70                  75                  80
      Pro Arg Pro Ser Ile Lys Lys Ala Gln Asn Ser Gln Ala Ala Arg Gln
                      85                  90                  95
      Ala Gln Glu Ala Gly Pro Lys Pro Asn Leu Val Pro Gly Gly Val Pro
                  100                 105                 110
      Asp Pro Pro Gly Leu Glu Ala Ala Lys Glu Val Met Val Lys Ala Thr
                  115                 120                 125
      Gly Pro Leu Glu Asp Thr Pro Ala Met Glu Pro Asn Pro Ser Ala Val
                  130                 135                 140
      Glu Val Asp Pro Ile Arg Lys Pro Glu Val Pro Thr Gly Asp Val Glu
      145                 150                 155                 160
      Glu Glu Arg Pro Pro Arg Asp Val His Ser Glu Arg Ala Ala Gly Glu
                      165                 170                 175
      Pro Glu Ala Gly Ser Asp Tyr Val Lys Phe Ser Lys Glu Lys Tyr Ile
              180                 185                 190
      Leu Asp Ser Ser Pro Glu Lys Leu His Lys Glu Leu Glu Glu Glu Leu
          195                 200                 205
      Lys Leu Ser Ser Thr Asp Leu Arg Ser His Ala Trp Tyr His Gly Arg
          210                 215                 220
      Ile Pro Arg Glu Val Ser Glu Thr Leu Val Gln Arg Asn Gly Asp Phe
      225                 230                 235                 240
      Leu Ile Arg Asp Ser Leu Thr Ser Leu Gly Asp Tyr Val Leu Thr Cys
                  245                 250                 255
      Arg Trp Arg Asn Gln Ala Leu His Phe Lys Ile Asn Lys Val Val Val
                  260                 265                 270
      Lys Ala Gly Glu Ser Tyr Thr His Ile Gln Tyr Leu Phe Glu Gln Glu
              275                 280                 285
      Ser Phe Asp His Val Pro Ala Leu Val Arg Tyr His Val Gly Ser Arg
          290                 295                 300
      Lys Ala Val Ser Glu Gln Ser Gly Ala Ile Ile Tyr Cys Pro Val Asn
      305                 310                 315                 320
      Arg Thr Phe Pro Leu Arg Tyr Leu Glu Ala Ser Tyr Gly Leu Gly Gln
                  325                 330                 335
      Gly Ser Ser Lys Pro Ala Ser Pro Val Ser Pro Ser Gly Pro Lys Gly
                  340                 345                 350
      Ser His Met Lys Arg Arg Ser Val Thr Met Thr Asp Gly Leu Thr Ala
                  355                 360                 365
      Asp Lys Val Thr Arg Ser Asp Gly Cys Pro Thr Ser Thr Ser Leu Pro
          370                 375                 380
      Arg Pro Arg Asp Ser Ile Arg Ser Cys Ala Leu Ser Met Asp Gln Ile
      385                 390                 395                 400
      Pro Asp Leu His Ser Pro Met Ser Pro Ile Ser Glu Ser Pro Ser Ser
                  405                 410                 415
      Pro Ala Tyr Ser Thr Val Thr Arg Val His Ala Ala Pro Ala Ala Pro
                  420                 425                 430
      Ser Ala Thr Ala Leu Pro Ala Ser Pro Val Ala Arg Cys Ser Ser Glu
```

3432

```
                435                 440                      445
Pro Gln Leu Cys Pro Gly Ser Ala Pro Lys Thr His Gly Glu Ser Asp
    450                   455                   460
Lys Gly Pro His Thr Ser Pro Ser His Thr Leu Gly Lys Ala Ser Pro
465                   470                   475                   480
Ser Pro Ser Leu Ser Ser Tyr Ser Asp Pro Asp Ser Gly His Tyr Cys
                485                   490                   495
Gln Leu Gln Pro Pro Val Arg Gly Ser Arg Glu Trp Ala Ala Thr Glu
                500                   505                   510
Thr Ser Ser Gln Gln Ala Arg Ser Tyr Gly Glu Arg Leu Lys Glu Leu
        515                   520                   525
Ser Glu Asn Gly Ala Pro Glu Gly Asp Trp Gly Lys Thr Phe Thr Val
    530                   535                   540
Pro Ile Val Glu Val Thr Ser Ser Phe Asn Pro Ala Thr Phe Gln Ser
545                   550                   555                   560
Leu Leu Ile Pro Arg Asp Asn Arg Pro Leu Glu Val Gly Leu Leu Arg
                565                   570                   575
Lys Val Lys Glu Leu Leu Ala Glu Val Asp Ala Arg Thr Leu Ala Arg
                580                   585                   590
His Val Thr Lys Val Asp Cys Leu Val Ala Arg Ile Leu Gly Val Thr
        595                   600                   605
Lys Glu Met Gln Thr Leu Met Gly Val Arg Trp Gly Met Glu Leu Leu
    610                   615                   620
Thr Leu Pro His Gly Arg Gln Leu Arg Leu Asp Leu Leu Glu Arg Phe
625                   630                   635                   640
His Thr Met Ser Ile Met Leu Ala Val Asp Ile Leu Gly Cys Thr Gly
                645                   650                   655
Ser Ala Glu Glu Arg Ala Ala Leu Leu His Lys Thr Ile Gln Leu Ala
                660                   665                   670
Ala Glu Leu Arg Gly Thr Met Gly Asn Met Phe Ser Phe Ala Ala Val
        675                   680                   685
Met Gly Ala Leu Asp Met Ala Gln Ile Ser Arg Leu Glu Gln Thr Trp
    690                   695                   700
Val Thr Leu Arg Gln Arg His Thr Glu Gly Ala Ile Leu Tyr Glu Lys
705                   710                   715                   720
Lys Leu Lys Pro Phe Leu Lys Ser Leu Asn Glu Gly Lys Glu Gly Pro
                725                   730                   735
Pro Leu Ser Asn Thr Thr Phe Pro His Val Leu Pro Leu Ile Thr Leu
                740                   745                   750
Leu Glu Cys Asp Ser Ala Pro Pro Glu Gly Pro Glu Pro Trp Gly Ser
        755                   760                   765
Thr Glu His Gly Val Glu Val Val Leu Ala His Leu Glu Ala Ala Arg
    770                   775                   780
Thr Val Ala His His Gly Gly Leu Tyr His Thr Asn Ala Glu Val Lys
785                   790                   795                   800
Leu Gln Gly Phe Gln Ala Arg Pro Glu Leu Leu Glu Val Phe Ser Thr
                805                   810                   815
Glu Phe Gln Met Arg Leu Leu Trp Gly Ser Gln Gly Ala Ser Ser Ser
                820                   825                   830
Gln Ala Arg Arg Tyr Glu Lys Phe Asp Lys Val Leu Thr Ala Leu Ser
        835                   840                   845
His Lys Leu Glu Pro Ala Val Arg Ser Ser Glu Leu
    850                   855                   860
```

<210> 4241
<211> 479
<212> DNA
<213> Homo sapiens

<400> 4241
nacgcgtttt ctgaaaggag cttcctggca ctcaccagcc gcttcctgtt tggactcctg
60
aacgaggaga ccaggagcca cctggagaag agtctctgct ggaaggtctc gccgcacatc
120
aagatggacc tgttgcagtg gatccaaagc aaaactcaga gcgacggctc caccctgcag
180
cagggctcct tggagttctt cagctgcttg tacgagatcc aggaggagga gtttatccag
240
caggccctga gccacttcca ggtgatcgtg gtcagcaaca ttgcctccaa gatggagcac
300
atggtctcct cgttctgtct gaagcgctgc aggagcgccc aggtgctgca cttgtatggc
360
gccacctaca gcgcggacgg ggaagaccgc gcgaggtgtc cgcaggagcg cacacgctgt
420
tggtgcagct accagagagg cccgttctgc tggacgccta cagtgaacat ctggcagcg
479

<210> 4242
<211> 159
<212> PRT
<213> Homo sapiens

<400> 4242
Xaa Ala Phe Ser Glu Arg Ser Phe Leu Ala Leu Thr Ser Arg Phe Leu
1   5   10   15
Phe Gly Leu Leu Asn Glu Glu Thr Arg Ser His Leu Glu Lys Ser Leu
            20   25   30
Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu Gln Trp Ile
        35   40   45
Gln Ser Lys Thr Gln Ser Asp Gly Ser Thr Leu Gln Gln Gly Ser Leu
    50   55   60
Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Glu Phe Ile Gln
65   70   75   80
Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn Ile Ala Ser
                85   90   95
Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg Cys Arg Ser
            100   105   110
Ala Gln Val Leu His Leu Tyr Gly Ala Thr Tyr Ser Ala Asp Gly Glu
        115   120   125
Asp Arg Ala Arg Cys Pro Gln Glu Arg Thr Arg Cys Trp Cys Ser Tyr
    130   135   140
Gln Arg Gly Pro Phe Cys Trp Thr Pro Thr Val Asn Ile Trp Gln
145   150   155

<210> 4243
<211> 3159
<212> DNA
<213> Homo sapiens

3434

<400> 4243

```
ngccgcaacc cgtcccggag gtgtcctgtc tcctgtcgcc gccgccgccg ccaccaccgc
60
tgccactgcc gccctgccgg ggccatgttc gctctgggct tgcccttctt ggtgctcttg
120
gtggcctcgg tcgagagcca tctggggggtt ctggggccca agaacgtctc gcagaaagac
180
gccgagtttg agcgcaccta cgtggacgag gtcaacagcg agctggtcaa catctacacc
240
ttcaaccata ctgtgacccg caacaggaca gagggcgtgc gtgtgtctgt gaacgtcctg
300
aacaagcaga aggggcgcc gttgctgttt gtggtccgcc agaaggaggc tgtggtgtcc
360
ttccaggtgc ccctaatcct gcgagggatg tttcagcgca agtacctcta ccaaaaagtg
420
gaacgaaccc tgtgtcagcc ccccaccaag aatgagtcgg agattcagtt cttctacgtg
480
gatgtgtcca ccctgtcacc agtcaacacc acataccagc tccgggtcag ccgcatggac
540
gattttgtgc tcaggactgg ggagcagttc agcttcaata ccacagcagc acagccccag
600
tacttcaagt atgagttccc tgaaggcgtg gactcggtaa ttgtcaaggt gacctccaac
660
aaggccttcc cctgctcagt catctccatt caggatgtgc tgtgtcctgt ctatgacctg
720
gacaacaacg tagccttcat cggcatgtac cagacgatga ccaagaaggc ggccatcacc
780
gtacagcgca aagacttccc cagcaacagc ttttatgtgg tggtggtggt gaagaccgaa
840
gaccaagcct gcgggggctc cctgccttttc taccccttcg cagaagatga accggtcgat
900
caagggcacc gccagaaaac cctgtcagtg ctggtgtctc aagcagtcac gtctgaggca
960
tacgtcagtg ggatgctctt ttgcctgggt atatttctct cctttttacct gctgaccgtc
1020
ctcctggcct gctgggagaa ctggaggcag aagaagaaga ccctgctggt ggccattgac
1080
cgagcctgcc agaaagcgc ttctctcctt ggtcaccctc gagtcctggc tgattctttt
1140
cctggcagtt ccccttatga gggttacaac tatggctcct ttgagaatgt ttctggatct
1200
accgatggtc tggttgacag cgctggcact ggggacctct cttacggtta ccaggggcac
1260
gaccagttca agcggcgcct cccctctgc cagatgcggc agctgtgcat tgccatgggc
1320
cgctcctttg aacctgtagg tactcggccc cgagtggact ccatgagctc tgtggaggag
1380
gatgactacg acacattgac cgacatcgat tccgacaaga atgtcattcg caccaagcaa
1440
tacctctatg tggctgacct ggcacggaag acaagcgtg ttctgcggaa aaagtaccag
1500
atctacttct ggaacattgc caccattgct gtcttctatg cccttcctgt ggtgcagctg
1560
```

3435

```
gtgatcacct accagacggt ggtgaatgtc acagggaatc aggacatctg ctactacaac
1620
ttcctctgcg cccacccact gggcaatctc agcgccttca acaacatcct cagcaacctg
1680
gggtacatcc tgctggggct gcttttcctg ctcatcatcc tgcaacggga gatcaaccac
1740
aaccgggccc tgctgcgcaa tgacctctgt gccctggaat gtgggatccc caaacacttt
1800
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1860
catgtgtgcc ccaactatac caatttccag tttgacacat cgttcatgta catgatcgcc
1920
ggactctgca tgctgaagct ctaccagaag cggcacccgg acatcaacgc cagcgcctac
1980
agtgcctacg cctgcctggc cattgtcatc ttcttctctg tgctgggcgt ggtctttggc
2040
aaagggaaca cggcgttctg gatcgtcttc tccatcattc acatcatcgc caccctgctc
2100
ctcagcacgc agctctatta catgggccgg tggaaactgg actcggggat cttccgccgc
2160
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2220
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2280
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2340
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2400
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2460
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2520
atcctcctcg acttctttga cgaccacgac atctggcact tcctctcctc catcgccatg
2580
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2640
gcagctgcct ccttctctgt gagctgatct ggcgtccaca ccccaggtgt tagctgacac
2700
tggatgacga cctggatact tagaaagggg cttcaggaag ggatgtgctg tttccctcta
2760
cgtgcccagt cctagcctcg ctctaggacc cagggctggc ttctaagttt ccgtccagtc
2820
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2880
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2940
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3000
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3060
gtgggtctgg atcttttctc agagcgtctc catgctatgg ttgcatttcc gttttctatg
3120
aatgaatttg catacaataa ccaaccagac tcagtaaaa
3159
```

<210> 4244
<211> 849
<212> PRT
<213> Homo sapiens

<400> 4244

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Met Phe Ala Leu Gly Leu Pro Phe Leu Val Leu Leu Val Ala Ser Val
1               5                   10                  15
Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln Lys Asp
            20                  25                  30
Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser Glu Leu Val
        35                  40                  45
Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn Arg Thr Glu Gly
    50                  55                  60
Val Arg Val Ser Val Asn Val Leu Asn Lys Gln Lys Gly Ala Pro Leu
65                  70                  75                  80
Leu Phe Val Val Arg Gln Lys Glu Ala Val Val Ser Phe Gln Val Pro
                85                  90                  95
Leu Ile Leu Arg Gly Met Phe Gln Arg Lys Tyr Leu Tyr Gln Lys Val
                100                 105                 110
Glu Arg Thr Leu Cys Gln Pro Pro Thr Lys Asn Glu Ser Glu Ile Gln
        115                 120                 125
Phe Phe Tyr Val Asp Val Ser Thr Leu Ser Pro Val Asn Thr Thr Tyr
    130                 135                 140
Gln Leu Arg Val Ser Arg Met Asp Asp Phe Val Leu Arg Thr Gly Glu
145                 150                 155                 160
Gln Phe Ser Phe Asn Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr
                165                 170                 175
Glu Phe Pro Glu Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn
            180                 185                 190
Lys Ala Phe Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro
            195                 200                 205
Val Tyr Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr
    210                 215                 220
Met Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser
225                 230                 235                 240
Asn Ser Phe Tyr Val Val Val Val Val Lys Thr Glu Asp Gln Ala Cys
                245                 250                 255
Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro Val Asp
            260                 265                 270
Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser Gln Ala Val
        275                 280                 285
Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys Leu Gly Ile Phe
    290                 295                 300
Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala Cys Trp Glu Asn Trp
305                 310                 315                 320
Arg Gln Lys Lys Lys Thr Leu Leu Val Ala Ile Asp Arg Ala Cys Pro
                325                 330                 335
Glu Ser Ala Ser Leu Leu Gly His Pro Arg Val Leu Ala Asp Ser Phe
            340                 345                 350
Pro Gly Ser Ser Pro Tyr Glu Gly Tyr Asn Tyr Gly Ser Phe Glu Asn
            355                 360                 365
Val Ser Gly Ser Thr Asp Gly Leu Val Asp Ser Ala Gly Thr Gly Asp
```

```
      370                    375                    380
Leu Ser Tyr Gly Tyr Gln Gly His Asp Gln Phe Lys Arg Arg Leu Pro
385                    390                    395                    400
Ser Gly Gln Met Arg Gln Leu Cys Ile Ala Met Gly Arg Ser Phe Glu
                405                    410                    415
Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser Val Glu Glu
                420                    425                    430
Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys Asn Val Ile
            435                    440                    445
Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala Arg Lys Asp Lys
    450                    455                    460
Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe Trp Asn Ile Ala Thr
465                    470                    475                    480
Ile Ala Val Phe Tyr Ala Leu Pro Val Val Gln Leu Val Ile Thr Tyr
                485                    490                    495
Gln Thr Val Val Asn Val Thr Gly Asn Gln Asp Ile Cys Tyr Tyr Asn
                500                    505                    510
Phe Leu Cys Ala His Pro Leu Gly Asn Leu Ser Ala Phe Asn Asn Ile
            515                    520                    525
Leu Ser Asn Leu Gly Tyr Ile Leu Leu Gly Leu Leu Phe Leu Leu Ile
            530                    535                    540
Ile Leu Gln Arg Glu Ile Asn His Asn Arg Ala Leu Leu Arg Asn Asp
545                    550                    555                    560
Leu Cys Ala Leu Glu Cys Gly Ile Pro Lys His Phe Gly Leu Phe Tyr
                565                    570                    575
Ala Met Gly Thr Ala Leu Met Met Glu Gly Leu Leu Ser Ala Cys Tyr
                580                    585                    590
His Val Cys Pro Asn Tyr Thr Asn Phe Gln Phe Asp Thr Ser Phe Met
            595                    600                    605
Tyr Met Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Lys Arg His
    610                    615                    620
Pro Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile
625                    630                    635                    640
Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn Thr
                645                    650                    655
Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr Leu Leu
            660                    665                    670
Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu Asp Ser Gly
            675                    680                    685
Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp Cys Ile Arg Gln
    690                    695                    700
Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val Leu Leu Val Met Gly
705                    710                    715                    720
Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr Gly Leu Ile Met Arg Pro
                725                    730                    735
Asn Asp Phe Ala Ser Tyr Leu Leu Ala Ile Gly Ile Cys Asn Leu Leu
                740                    745                    750
Leu Tyr Phe Ala Phe Tyr Ile Ile Met Lys Leu Arg Ser Gly Glu Arg
            755                    760                    765
Ile Lys Leu Ile Pro Leu Leu Cys Ile Val Cys Thr Ser Val Val Trp
            770                    775                    780
Gly Phe Ala Leu Phe Phe Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys
785                    790                    795                    800
Thr Pro Ala Glu Ser Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp
```

3438

```
                    805                 810                 815
    Phe Phe Asp Asp His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met
            820                 825                 830
    Phe Gly Ser Phe Leu Val Ser Gly Pro Pro Gly Ala Ala Leu Arg Ile
            835                 840                 845
    Thr
```

```
<210> 4245
<211> 909
<212> DNA
<213> Homo sapiens

<400> 4245
ngggcccaga gcctccaaga ggctgcacac caggagctca acaccctcaa gttccagctg
60
agtgctgaaa tcatggacta ccagagcaga cttaagaatg ctggtgaaga gtgcaagagc
120
ctcaggggcc agcttgagga gcaaggccgg cagctgcagg ctgctgagga agctgtggag
180
aagctgaagg ccacccaagc agacatggga gagaagctga gctgcactag caaccatctt
240
gcagagtgcc aggcggccat gctgaggaag acaaggagg gggctgccct gcgtgaagac
300
ctagaaagga cccagaagga actcgaaaaa gccacaacaa aaatccaaga gtattacaac
360
aaactctgcc aggaggtgac aaatcgtgag aggaatgacc agaagatgct tgctgacctg
420
gatgacctca acagaaccaa gaagtatctc gaggagcggc tgatagagct gctcagggac
480
aaggatgctc tctggcagaa gtcagatgcc ctggaattcc agcagaagct cagtgctgag
540
gagagatggc tcggagacac agaggcaaac cactgcctcg actgtaagcg ggagttcagc
600
tggatggtgc ggcggcacca ctgcaggata tgtggccgca tcttctgtta ctactgctgc
660
aacaactacg tcctgagcaa gcacggtggc aaaaaggagc gctgctgccg agcctgtttc
720
cagaagctca gtgaaggccc tggctcccct gatagcagtg gctcaggcac tagccaggga
780
gagctcagcc ctgcactgtc accagcctca cctgggcccc aggccacagg aggccaagga
840
gcaaatacag actacaggcc accggacgac gctgtgtttg atatcatcac agatgaggaa
900
ttgtgccag
909
```

```
<210> 4246
<211> 303
<212> PRT
<213> Homo sapiens

<400> 4246
Xaa Ala Gln Ser Leu Gln Glu Ala Ala His Gln Glu Leu Asn Thr Leu
```

```
 1                   5                      10                    15
Lys Phe Gln Leu Ser Ala Glu Ile Met Asp Tyr Gln Ser Arg Leu Lys
                20                  25                  30
Asn Ala Gly Glu Glu Cys Lys Ser Leu Arg Gly Gln Leu Glu Glu Gln
                35                  40                  45
Gly Arg Gln Leu Gln Ala Ala Glu Glu Ala Val Glu Lys Leu Lys Ala
         50                  55                  60
Thr Gln Ala Asp Met Gly Glu Lys Leu Ser Cys Thr Ser Asn His Leu
65                  70                  75                  80
Ala Glu Cys Gln Ala Ala Met Leu Arg Lys Asp Lys Glu Gly Ala Ala
                85                  90                  95
Leu Arg Glu Asp Leu Glu Arg Thr Gln Lys Glu Leu Glu Lys Ala Thr
                100                 105                 110
Thr Lys Ile Gln Glu Tyr Tyr Asn Lys Leu Cys Gln Glu Val Thr Asn
         115                 120                 125
Arg Glu Arg Asn Asp Gln Lys Met Leu Ala Asp Leu Asp Asp Leu Asn
         130                 135                 140
Arg Thr Lys Lys Tyr Leu Glu Glu Arg Leu Ile Glu Leu Leu Arg Asp
145                 150                 155                 160
Lys Asp Ala Leu Trp Gln Lys Ser Asp Ala Leu Glu Phe Gln Gln Lys
                165                 170                 175
Leu Ser Ala Glu Glu Arg Trp Leu Gly Asp Thr Glu Ala Asn His Cys
                180                 185                 190
Leu Asp Cys Lys Arg Glu Phe Ser Trp Met Val Arg Arg His His Cys
                195                 200                 205
Arg Ile Cys Gly Arg Ile Phe Cys Tyr Tyr Cys Cys Asn Asn Tyr Val
         210                 215                 220
Leu Ser Lys His Gly Gly Lys Lys Glu Arg Cys Cys Arg Ala Cys Phe
225                 230                 235                 240
Gln Lys Leu Ser Glu Gly Pro Gly Ser Pro Asp Ser Ser Gly Ser Gly
                245                 250                 255
Thr Ser Gln Gly Glu Leu Ser Pro Ala Leu Ser Pro Ala Ser Pro Gly
                260                 265                 270
Pro Gln Ala Thr Gly Gly Gln Gly Ala Asn Thr Asp Tyr Arg Pro Pro
                275                 280                 285
Asp Asp Ala Val Phe Asp Ile Ile Thr Asp Glu Glu Leu Cys Gln
         290                 295                 300
```

<210> 4247
<211> 5755
<212> DNA
<213> Homo sapiens

<400> 4247
caccctctgg acaagagaac gggcgagcgg gagctaggag ggaagagtgg agaggaccgg
60
cgaggcgcgc cagccggagc cacctccttc ccggccgccc cctccccact ccccctacac
120
acacacgctc gctcgctcgc cggcgcgcgc acaccccccg cgccggaccc gcacctcggc
180
gggcgccaca cactcggcag cccgagccgc ggtagccgca gcgggatgga ggcggcgcgc
240
acggagcgcc ccgcaggcag gccggggggcg ccgcttgtcc ggacggggct cctactcttg
300

3440

```
tcgacgtggg tcctggccgg cgccgagatc acttgggacg cgacaggcgg tcccggacgc
360
ccggcggccc cggcttcgcg gccaccggcg ttgtctccac tctcgccgcg ggcagtggcc
420
agccagtggc cggaggagct ggcgtcggcg cggagagccg ccgtgctggg gcgccgggcc
480
ggaccagagc tgctgcccca gcagggcggc ggcagaggcg gtgagatgca ggtggaagcc
540
ggagggacat caccggcagg cgagcggcgg ggccggggca tcccagctcc tgccaagctt
600
ggcggcgcga ggaggagtcg ccgggcgcag cccccaatca cccaggaacg cggggacgcc
660
tgggccactg ctccggccga tggttccaga ggaagccgtc cccttgctaa gggttcccgg
720
gaggaggtga aggcgccgcg ggctggggggg tcggcggctg aagacctccg gctgcccagc
780
acctccttcg cgctgaccgg ggactcggcc cacaaccaag ccatggtgca ctggtcggga
840
cacaacagca gcgtcatact tatcctgacg aagctgtatg acttcaacct gggcagcgtg
900
actgagagtt cactatggag gtcgacagat tatggcacca cctatgaaaa gctgaatgac
960
aaagtgggtt tgaagactgt cctcagttac ctctatgtca atccaaccaa caaaaggaag
1020
attatgcttc tcagtgatcc tgagatggag agcagcatat tgatcagctc agacgaaggg
1080
gcgacctatc agaagtatcg gctcaccttc tatatccaga gcctgctctt tcatcccaag
1140
caagaggact gggtgctggc ctacagtttg gatcaaaagc tctacagctc catggacttt
1200
ggaagacggt ggcaactcat gcatgaacgc atcacaccca acaggtttta ttggtcggtg
1260
gccggattgg ataaggaggc ggacctggtg cacatggagg tgcggaccac ggatggatat
1320
gctcactacc tcacctgcag gatccaggaa tgtgccgaga caactagaag tgggcctttt
1380
gcccgctcca ttgacatcag ttccctggtt gtccaggatg aatatatctt cattcaggta
1440
acaactagtg aagagccag ctactacgtg tcttatcgaa gagaggcctt tgctcagata
1500
aagctgccta agtactcgtt gccaaaggac atgcacatca tcagtacaga cgagaaccaa
1560
gtatttgctg cggtccaaga atggaaccag aatgacacgt acaacctcta catctcagac
1620
acgcgtggga tttacttcac tctggccatg gagaacatca agagcagcag aggtctaatg
1680
gggaacatca ttattgaatt gtatgaggta gcaggtatca aagggatatt tctggcaaac
1740
aagaaggtgg acgaccaggt gaagacatac atcacttaca caaaggcag ggattggcgc
1800
ctgctgcaag ctccggatgt ggacctgaga ggaagcccag tgcactgcct gctgcccttc
1860
tgttccttac atctgcacct gcaactctct gaaaatccat attcctcagg aagaatctct
1920
```

3441

```
agcaaggaga cagccccagg acttgtggtg gctacaggca acattggccc ggagctctca
1980
tatactgata ttggtgtgtt catctcctcc gatgggggca acacatggag acagatcttt
2040
gatgaagagt acaatgtctg gttcctagac tggggtggtg ccctcgtggc catgaaacac
2100
acacctctgc cagtcaggca tttgtgggtg agttttgatg agggccactc ttgggacaag
2160
tatggtttca cttcggttcc tctctttgtt gacggggctc tggtggaggc aggaatggag
2220
acccacatca tgacagtttt tggccacttc agcctccgct ccgaatggca attggtgaaa
2280
gtggactaca aatctatctt cagccggcat tgcaccaagg aggactatca gacctggcac
2340
ctgctcaatc agggagagcc ttgtgtcatg ggagaaagga aaatattcaa gaaacgtaag
2400
ccaggagctc agtgtgccct gggccgagac cactcaggat cagtggtctc agaaccctgt
2460
gtctgtgcca attgggactt cgagtgtgac tatgggtatg agagacatgg ggagagccag
2520
tgtgtcccag ctttctggta caatccagca tccccatcaa aggactgcag ccttggtcaa
2580
agctacctta acagcactgg gtatcggcgg attgtgtcca acaactgcac agatgggcta
2640
agggagaagt acaccgccaa ggcccagatg tgccctggaa aagcccctcg gggcctccat
2700
gtggtgacga ccgatgggcg gctggtggca gagcaggggc acaatgcaac tttcatcatc
2760
ctcatggagg agggtgatct acaaaggaca aacatccagc ttgactttgg ggatgggatt
2820
gctgtgtcct acgcaaactt cagcccccatc gaggacggca tcaagcacgt gtataagagt
2880
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3000
ataagaaata aggaggtcaa catcagtgca gtcgtgtggc ccagtcaact ggggacccctt
3060
acctatttct ggtggttcgg caatagcaca aagcctctca tcactttgga cagcagcatt
3120
tccttcacat tccttgcaga aggaaccgac accatcacag tccaggtggc tgctgggaat
3180
gccctcatcc aggacacaaa agagattgca gttcatgaat atttccagtc ccagctttta
3240
tcattctctc ctaatctgga ttaccacaat cctgacattc ctgagtggag aaaagatatt
3300
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3360
attgccgtgt ttcctggtct ccccacttca gcagagcttt tcattcttcc acccaagaac
3420
ctgacagaga ggaggaaagg caatgaaggg gacctggaac aaattgtaga aacactgttt
3480
aatgctctca accaaaattt ggtccagttt gagctgaagc cggggggtaca agtcattgtg
3540
```

3442

```
tatgtcacac agctgacgtt agctccattg gtggactcca gtgctgggca cagcagctca
3600
gccatgctta tgctattatc agtggtattt gttggcctgg ctgtgttttt gatctacaag
3660
tttaaaagga aaatcccttg gattaacatc tatgctcaag tccaacacga caaggagcag
3720
gagatgattg ggtcagtgag ccaaagtgaa aacgccccca aaatcacact cagtgacttt
3780
acggagcctg aggagctgct ggacaaagag ctggacacgc gggtcatagg aggcattgcc
3840
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3900
caagccacgt ggtcaaccac ctttctgact ttttattttt gatgattact attactatta
3960
ttatggaaaa attaaaatgt cttttttacc ttttgtttac caagggcccc ttcataaata
4020
gcaggcaaat gcctagcttt gggagaaaag ggcattctta gctgattgaa atgagacaaa
4080
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4140
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4260
tctccgcttc ccccagcaca cacacataca acacagatca tttcccagtt agatccgcag
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gaagtaggtt ggtggggggtg gatgtagctg cagaaagcat gcacaacttt gtgaaagagg
4380
ccctgccttg tgcatgtcca tagtgaggct acagatggct tattgtatat aattacaatg
4440
taaatagctt tttatttcct aagaaataat ttaatgttta gtaaaaaaga aaacagaaaa
4500
aagaaagatg cgtgtgttgg cttacgcact ggccctcaga gctgaccaac ccgccaggcc
4560
tgctcaatgc attgggtttg gatgctctcc tgttgtctgt cacacttaac tcttgcatct
4620
ccttgtccat gccatagctg gtttctactt atgtatataa aggggggtgg ggggaggggc
4680
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4740
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4800
cccagatggg ggaaaacagc ttcctctcta aaaggaaaaa cttgatattt atcagtctga
4860
gaaaatattt ttttctaaag aaggcag_ca gtggatctta aaatgacaat ctgtttttaa
4920
attggattct atgaaaatgc ataatgctta tggtgaattc tcaggctatt ctgagctcag
4980
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5040
agaggttgga agggaagagg catttgtgga attatgagtt catgcaaaac tctccaggcc
5100
aagtaggggt ctagccttta atgatattag tcaaaggcaa ttttagcaaa gctgtgctat
5160
```

```
ttgcttgtca gatgtacaca acttccttaa agtcaaatgt ctgccttcag ttcccttaag
5220
gtagttcttg cctctggggt gagtggcttt caaagccttt tagcttttcc agcacctcag
5280
ccccttcaca catttacaca taccaatttt tttcaatagg gtcacgttaa gccatgctgt
5340
aagcattgtt tttattttca ggcttagcct gagcacactt atttttgaaa atgatataat
5400
gtatatatat gggaggaaag gccacatttt gtacctgtta atttttgtgg gatgttgttc
5460
ccattcttct ttgtgagaca gagagaatgt gatatagaga aatctggctg gctacagtgt
5520
agatcagtat taggaatatt tctaaagatc ctgctttttt gtttcaaggg ttaaatgggg
5580
cagacaattg caatacttgt actaaacact ggaatacaaa tgcatgactc atatctatat
5640
atacagtata tgtacatata ctgttcttgg ttttattgtt ccacttgaat atttctactg
5700
taaaaaaag acagtggttt tgaaattgtt gaaataaat gtatttttgt acatc
5755
```

<210> 4248
<211> 1297
<212> PRT
<213> Homo sapiens

<400> 4248

```
His Pro Leu Asp Lys Arg Thr Gly Glu Arg Glu Leu Gly Gly Lys Ser
1               5                   10                  15
Gly Glu Asp Arg Arg Gly Ala Pro Ala Gly Ala Thr Ser Phe Pro Ala
            20                  25                  30
Ala Pro Ser Pro Leu Pro Leu His Thr His Ala Arg Ser Leu Ala Gly
        35                  40                  45
Ala Arg Thr Pro Pro Ala Pro Asp Pro His Leu Gly Gly Arg His Thr
        50                  55                  60
Leu Gly Ser Pro Ser Arg Gly Ser Arg Ser Gly Met Glu Ala Ala Arg
65                  70                  75                  80
Thr Glu Arg Pro Ala Gly Arg Pro Gly Ala Pro Leu Val Arg Thr Gly
                85                  90                  95
Leu Leu Leu Leu Ser Thr Trp Val Leu Ala Gly Ala Glu Ile Thr Trp
            100                 105                 110
Asp Ala Thr Gly Gly Pro Gly Arg Pro Ala Ala Pro Ala Ser Arg Pro
        115                 120                 125
Pro Ala Leu Ser Pro Leu Ser Pro Arg Ala Val Ala Ser Gln Trp Pro
    130                 135                 140
Glu Glu Leu Ala Ser Ala Arg Arg Ala Ala Val Leu Gly Arg Arg Ala
145                 150                 155                 160
Gly Pro Glu Leu Leu Pro Gln Gln Gly Gly Gly Arg Gly Gly Glu Met
                165                 170                 175
Gln Val Glu Ala Gly Gly Thr Ser Pro Ala Gly Glu Arg Arg Gly Arg
            180                 185                 190
Gly Ile Pro Ala Pro Ala Lys Leu Gly Gly Ala Arg Arg Ser Arg Arg
        195                 200                 205
Ala Gln Pro Pro Ile Thr Gln Glu Arg Gly Asp Ala Trp Ala Thr Ala
```

```
                   210                      215                      220
      Pro Ala Asp Gly Ser Arg Gly Ser Arg Pro Leu Ala Lys Gly Ser Arg
      225                      230                      235                      240
      Glu Glu Val Lys Ala Pro Arg Ala Gly Gly Ser Ala Ala Glu Asp Leu
                       245                      250                      255
      Arg Leu Pro Ser Thr Ser Phe Ala Leu Thr Gly Asp Ser Ala His Asn
                       260                      265                      270
      Gln Ala Met Val His Trp Ser Gly His Asn Ser Ser Val Ile Leu Ile
                       275                      280                      285
      Leu Thr Lys Leu Tyr Asp Phe Asn Leu Gly Ser Val Thr Glu Ser Ser
                       290                      295                      300
      Leu Trp Arg Ser Thr Asp Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp
      305                      310                      315                      320
      Lys Val Gly Leu Lys Thr Val Leu Ser Tyr Leu Tyr Val Asn Pro Thr
                       325                      330                      335
      Asn Lys Arg Lys Ile Met Leu Leu Ser Asp Pro Glu Met Glu Ser Ser
                       340                      345                      350
      Ile Leu Ile Ser Ser Asp Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu
                       355                      360                      365
      Thr Phe Tyr Ile Gln Ser Leu Leu Phe His Pro Lys Gln Glu Asp Trp
                       370                      375                      380
      Val Leu Ala Tyr Ser Leu Asp Gln Lys Leu Tyr Ser Ser Met Asp Phe
      385                      390                      395                      400
      Gly Arg Arg Trp Gln Leu Met His Glu Arg Ile Thr Pro Asn Arg Phe
                       405                      410                      415
      Tyr Trp Ser Val Ala Gly Leu Asp Lys Glu Ala Asp Leu Val His Met
                       420                      425                      430
      Glu Val Arg Thr Thr Asp Gly Tyr Ala His Tyr Leu Thr Cys Arg Ile
                       435                      440                      445
      Gln Glu Cys Ala Glu Thr Thr Arg Ser Gly Pro Phe Ala Arg Ser Ile
                       450                      455                      460
      Asp Ile Ser Ser Leu Val Val Gln Asp Glu Tyr Ile Phe Ile Gln Val
      465                      470                      475                      480
      Thr Thr Ser Gly Arg Ala Ser Tyr Tyr Val Ser Tyr Arg Arg Glu Ala
                       485                      490                      495
      Phe Ala Gln Ile Lys Leu Pro Lys Tyr Ser Leu Pro Lys Asp Met His
                       500                      505                      510
      Ile Ile Ser Thr Asp Glu Asn Gln Val Phe Ala Ala Val Gln Glu Trp
                       515                      520                      525
      Asn Gln Asn Asp Thr Tyr Asn Leu Tyr Ile Ser Asp Thr Arg Gly Ile
                       530                      535                      540
      Tyr Phe Thr Leu Ala Met Glu Asn Ile Lys Ser Ser Arg Gly Leu Met
      545                      550                      555                      560
      Gly Asn Ile Ile Ile Glu Leu Tyr Glu Val Ala Gly Ile Lys Gly Ile
                       565                      570                      575
      Phe Leu Ala Asn Lys Lys Val Asp Asp Gln Val Lys Thr Tyr Ile Thr
                       580                      585                      590
      Tyr Asn Lys Gly Arg Asp Trp Arg Leu Leu Gln Ala Pro Asp Val Asp
                       595                      600                      605
      Leu Arg Gly Ser Pro Val His Cys Leu Leu Pro Phe Cys Ser Leu His
                       610                      615                      620
      Leu His Leu Gln Leu Ser Glu Asn Pro Tyr Ser Ser Gly Arg Ile Ser
      625                      630                      635                      640
      Ser Lys Glu Thr Ala Pro Gly Leu Val Val Ala Thr Gly Asn Ile Gly
```

```
                      645                 650                 655
Pro Glu Leu Ser Tyr Thr Asp Ile Gly Val Phe Ile Ser Ser Asp Gly
            660                 665                 670
Gly Asn Thr Trp Arg Gln Ile Phe Asp Glu Glu Tyr Asn Val Trp Phe
            675                 680                 685
Leu Asp Trp Gly Gly Ala Leu Val Ala Met Lys His Thr Pro Leu Pro
        690                 695                 700
Val Arg His Leu Trp Val Ser Phe Asp Glu Gly His Ser Trp Asp Lys
705                 710                 715                 720
Tyr Gly Phe Thr Ser Val Pro Leu Phe Val Asp Gly Ala Leu Val Glu
                725                 730                 735
Ala Gly Met Glu Thr His Ile Met Thr Val Phe Gly His Phe Ser Leu
            740                 745                 750
Arg Ser Glu Trp Gln Leu Val Lys Val Asp Tyr Lys Ser Ile Phe Ser
            755                 760                 765
Arg His Cys Thr Lys Glu Asp Tyr Gln Thr Trp His Leu Leu Asn Gln
        770                 775                 780
Gly Glu Pro Cys Val Met Gly Glu Arg Lys Ile Phe Lys Lys Arg Lys
785                 790                 795                 800
Pro Gly Ala Gln Cys Ala Leu Gly Arg Asp His Ser Gly Ser Val Val
            805                 810                 815
Ser Glu Pro Cys Val Cys Ala Asn Trp Asp Phe Glu Cys Asp Tyr Gly
            820                 825                 830
Tyr Glu Arg His Gly Glu Ser Gln Cys Val Pro Ala Phe Trp Tyr Asn
        835                 840                 845
Pro Ala Ser Pro Ser Lys Asp Cys Ser Leu Gly Gln Ser Tyr Leu Asn
        850                 855                 860
Ser Thr Gly Tyr Arg Arg Ile Val Ser Asn Asn Cys Thr Asp Gly Leu
865                 870                 875                 880
Arg Glu Lys Tyr Thr Ala Lys Ala Gln Met Cys Pro Gly Lys Ala Pro
                885                 890                 895
Arg Gly Leu His Val Val Thr Thr Asp Gly Arg Leu Val Ala Glu Gln
            900                 905                 910
Gly His Asn Ala Thr Phe Ile Ile Leu Met Glu Glu Gly Asp Leu Gln
        915                 920                 925
Arg Thr Asn Ile Gln Leu Asp Phe Gly Asp Gly Ile Ala Val Ser Tyr
    930                 935                 940
Ala Asn Phe Ser Pro Ile Glu Asp Gly Ile Lys His Val Tyr Lys Ser
945                 950                 955                 960
Ala Gly Ile Phe Gln Val Thr Ala Tyr Ala Glu Asn Asn Leu Gly Ser
                965                 970                 975
Asp Thr Ala Val Leu Phe Leu His Val Val Cys Pro Val Glu His Val
            980                 985                 990
His Leu Arg Val Pro Phe Val Ala Ile Arg Asn Lys Glu Val Asn Ile
        995                 1000                1005
Ser Ala Val Val Trp Pro Ser Gln Leu Gly Thr Leu Thr Tyr Phe Trp
    1010                1015                1020
Trp Phe Gly Asn Ser Thr Lys Pro Leu Ile Thr Leu Asp Ser Ser Ile
1025                1030                1035                1040
Ser Phe Thr Phe Leu Ala Glu Gly Thr Asp Thr Ile Thr Val Gln Val
                1045                1050                1055
Ala Ala Gly Asn Ala Leu Ile Gln Asp Thr Lys Glu Ile Ala Val His
            1060                1065                1070
Glu Tyr Phe Gln Ser Gln Leu Leu Ser Phe Ser Pro Asn Leu Asp Tyr
```

3446

```
              1075                  1080                  1085
        His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile
          1090                  1095                1100
        Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu
        1105                  1110                1115                1120
        Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu
                    1125                  1130                1135
        Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys Gly Asn Glu Gly Asp Leu
                  1140                  1145                1150
        Glu Gln Ile Val Glu Thr Leu Phe Asn Ala Leu Asn Gln Asn Leu Val
                  1155                  1160                1165
        Gln Phe Glu Leu Lys Pro Gly Val Gln Val Ile Val Tyr Val Thr Gln
            1170                  1175                1180
        Leu Thr Leu Ala Pro Leu Val Asp Ser Ser Ala Gly His Ser Ser Ser
        1185                  1190                1195                1200
        Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe
                    1205                  1210                1215
        Leu Ile Tyr Lys Phe Lys Arg Lys Ile Pro Trp Ile Asn Ile Tyr Ala
                  1220                  1225                1230
        Gln Val Gln His Asp Lys Glu Gln Glu Met Ile Gly Ser Val Ser Gln
                  1235                  1240                1245
        Ser Glu Asn Ala Pro Lys Ile Thr Leu Ser Asp Phe Thr Glu Pro Glu
            1250                  1255                1260
        Glu Leu Leu Asp Lys Glu Leu Asp Thr Arg Val Ile Gly Gly Ile Ala
        1265                  1270                1275                1280
        Thr Ile Ala Asn Ser Glu Ser Thr Lys Glu Ile Pro Asn Cys Thr Ser
                    1285                  1290                1295
        Val
```

```
<210> 4249
<211> 553
<212> DNA
<213> Homo sapiens

<400> 4249
nnccgggccc tccccaaaaa ggaccaggtt gtccagaaaa gtgagcagct aaaactgttt
60
ctaagaaact caactgcatc cagaacaaag attaagatga tttataaaaa tgctaaaaca
120
cccagcacgc aacatggtaa aattcgcaat gcctcaggca tcaacccgag agtaccaggc
180
ccacaggaag gcagcataat aggaccccaa acaaggagga aaagcagcct cctgaaaccg
240
accctgatat cagaaccagc agacatgggc actcagcagt tcttacaact gaatcccaat
300
ctgcaaaagt ttagtagaga catggaagac gtaaagggga ccccaagcaa gcctctagag
360
aattataaca tgttggctgg gcttggtggc tcacgcgtgt catcgcagca ctttgggagg
420
ctgaggcagg aggatcgctt gagcccagga gttcaagacc agcctggacc acatagtgag
480
accccatct cataaaaaat aaaaaaaaat tgaattacaa cacgaggtga caaaagcact
540
```

ggatgagatt aac
553

<210> 4250
<211> 164
<212> PRT
<213> Homo sapiens

<400> 4250
Xaa Arg Ala Leu Pro Lys Lys Asp Gln Val Val Gln Lys Ser Glu Gln
 1   5   10   15
Leu Lys Leu Phe Leu Arg Asn Ser Thr Ala Ser Arg Thr Lys Ile Lys
            20   25   30
Met Ile Tyr Lys Asn Ala Lys Thr Pro Ser Thr Gln His Gly Lys Ile
            35   40   45
Arg Asn Ala Ser Gly Ile Asn Pro Arg Val Pro Gly Pro Gln Glu Gly
        50   55   60
Ser Ile Ile Gly Pro Gln Thr Arg Arg Lys Ser Ser Leu Leu Lys Pro
65   70   75   80
Thr Leu Ile Ser Glu Pro Ala Asp Met Gly Thr Gln Gln Phe Leu Gln
                85   90   95
Leu Asn Pro Asn Leu Gln Lys Phe Ser Arg Asp Met Glu Asp Val Lys
            100   105   110
Gly Thr Pro Ser Lys Pro Leu Glu Asn Tyr Asn Met Leu Ala Gly Leu
            115   120   125
Gly Gly Ser Arg Val Ser Ser Gln His Phe Gly Arg Leu Arg Gln Glu
        130   135   140
Asp Arg Leu Ser Pro Gly Val Gln Asp Gln Pro Gly Pro His Ser Glu
145   150   155   160
Thr Pro Ile Ser

<210> 4251
<211> 1574
<212> DNA
<213> Homo sapiens

<400> 4251
nngggggggg gggggggggg ggttaagctc cttcagtagg gtactagggc accaaaaaaa
60
aaaagggcgg cgcggggggg gtcccccaca caaaaaaagg gggggaaagg aattcgcccc
120
ggggggggggc caggccctaa ccccatttat ttcattccac agatgagggc aaccttaaga
180
gggaaggggg agatggcagg gccagcgggc gcaggaagtg ccttcccacc cccaggacct
240
gacacatctc gtctcccctc ttttccgcac tgtgggcaca aagacacttt ttcttccgca
300
ggggcgggag cccctagttc caacactgag gacgcgtgac atggtgggca ccggaaagga
360
ggggacttct cctgcacccc aagaagtggt ggggagattg ctgcccctat agccatatct
420
cggcccccttc ccactcacca cccccaccccc aggtgctggg ggtcccttat ttttatgcaa
480

```
taactgagct tgatgggggt gggcaggggg ccagttgagc caatcaccag cctccatatc
540
acagatcctg accctgaatc tcaggagctg cagatcgggg gcacctgccc tgacatcacc
600
aaacgctacc tgcgcctgac ctgtgccccc gacccgtcca ccgtgcgccc tgtggcagtt
660
ttgaaaaagt cgctgtgcat ggtcaagtgc cactggaaag agaagcagga ctacgcgttt
720
gcctgcgagc agatgaagtc gatccggcag gatctgacgg tgcagggcat ccgcaccgag
780
ttcacggtgg aggtgtacga gacccatgcc cggatcgcct ggagaaggg tgaccatgaa
840
gagtttaacc agtgccagac gcagctcaag tcgctgtacg ccgagaactt gcctggcaat
900
gtgggcgagt ttactgccta ccgaatcctc tactacatct tcaccaagaa ctcgggagac
960
atcaccacgg agctggcata cctcacacga gaactgaagg cagatccttg cgtggcccac
1020
gccttggcat taaggacagc ctgggccctg ggcaactacc accgcttttt ccggctctac
1080
tgccatgcac cctgcatgtc tggctacctc gtggacaagt ttgcagatcg ggagcgcaag
1140
gtcgccctca aggccatgat caaaacgtat gtggtgccaa gctcccttct gcctttgctc
1200
ttcccatcct tccgcctcgc accgcccctc agaccagctc ctggccgcag gcctccccca
1260
gccccaacc cttgtcctgg tccttgcttc cccatcatct ttctccattc agccctcccc
1320
tctccagttc ctcttgctct ccttgttggt cacctctgtg ttccgggtca ctcctctccc
1380
tctccccact gttccagct cactgcctct ggggcctctt ctccacccca tctgtgtgtc
1440
tcttcctcct gttctctcct gcctggaccc cctagttcac tccttgccct gggcttcctc
1500
agaaccctga ggtctctgct ttctcagctt gtcgctgtgc tcccaccata gagaccatct
1560
agacagcctc tggt
1574
```

```
<210> 4252
<211> 352
<212> PRT
<213> Homo sapiens
```

```
<400> 4252
Met Gly Val Gly Arg Gly Pro Val Glu Pro Ile Thr Ser Leu His Ile
1               5               ·10                      15
Thr Asp Pro Asp Pro Glu Ser Gln Glu Leu Gln Ile Gly Gly Thr Cys
            20              25                      30
Pro Asp Ile Thr Lys Arg Tyr Leu Arg Leu Thr Cys Ala Pro Asp Pro
        35                  40                  45
Ser Thr Val Arg Pro Val Ala Val Leu Lys Lys Ser Leu Cys Met Val
    50                  55                  60
Lys Cys His Trp Lys Glu Lys Gln Asp Tyr Ala Phe Ala Cys Glu Gln
```

```
65                      70                      75                      80
Met Lys Ser Ile Arg Gln Asp Leu Thr Val Gln Gly Ile Arg Thr Glu
                    85                      90                      95
Phe Thr Val Glu Val Tyr Glu Thr His Ala Arg Ile Ala Leu Glu Lys
                100                     105                     110
Gly Asp His Glu Glu Phe Asn Gln Cys Gln Thr Gln Leu Lys Ser Leu
                115                     120                     125
Tyr Ala Glu Asn Leu Pro Gly Asn Val Gly Glu Phe Thr Ala Tyr Arg
        130                     135                     140
Ile Leu Tyr Tyr Ile Phe Thr Lys Asn Ser Gly Asp Ile Thr Thr Glu
145                     150                     155                     160
Leu Ala Tyr Leu Thr Arg Glu Leu Lys Ala Asp Pro Cys Val Ala His
                165                     170                     175
Ala Leu Ala Leu Arg Thr Ala Trp Ala Leu Gly Asn Tyr His Arg Phe
                180                     185                     190
Phe Arg Leu Tyr Cys His Ala Pro Cys Met Ser Gly Tyr Leu Val Asp
                195                     200                     205
Lys Phe Ala Asp Arg Glu Arg Lys Val Ala Leu Lys Ala Met Ile Lys
        210                     215                     220
Thr Tyr Val Val Pro Ser Ser Leu Leu Pro Leu Leu Phe Pro Ser Phe
225                     230                     235                     240
Arg Leu Ala Pro Pro Leu Arg Pro Ala Pro Gly Arg Arg Pro Pro Pro
                245                     250                     255
Ala Pro Asn Pro Cys Pro Gly Pro Cys Phe Pro Ile Ile Phe Leu His
                260                     265                     270
Ser Ala Leu Pro Ser Pro Val Pro Leu Ala Leu Leu Val Gly His Leu
                275                     280                     285
Cys Val Pro Gly His Ser Ser Pro Ser Pro His Cys Ser Gln Leu Thr
        290                     295                     300
Ala Ser Gly Ala Ser Ser Pro Pro His Leu Cys Val Ser Ser Ser Cys
305                     310                     315                     320
Ser Leu Leu Pro Gly Pro Pro Ser Ser Leu Leu Ala Leu Gly Phe Leu
                325                     330                     335
Arg Thr Leu Arg Ser Leu Leu Ser Gln Leu Val Ala Val Leu Pro Pro
        340                     345                     350
```

<210> 4253
<211> 1287
<212> DNA
<213> Homo sapiens

<400> 4253

nntacggctg cgagaagaca cagactgtgc aacccccaaa gcaggtctcc tcactcaccg
60
ggatagatag aactatcggc cccaattcct cagccctacc tgcaaccacc gcttgccatg
120
gtttccttgt gggtggaggg tactttcccg ccccctggtt tcgggcttgc ccacgtggct
180
tgctctggcc atggaatgaa gcagaaacga aagcctgcca gttctgagcc tatgccggaa
240
gacgccttgg gcggttccgc ggtccctgtg cgcttccacc ttcacccaga aggacttctc
300
tggtgcagcc gctgcttctt cagccacggc ccaaaaggat cggagccccc tggccgatcc
360

3450

gcaggtctgc agggagccac agagcgcagc ggccggccca gcgttcaagc ccaagcacag
420

gcctgcgaga accttgttcc agccaccgtt tgggatggtt gattaggact tgttgcagtg
480

gcggtagctc accaatccag tgcgtgcacc cgctccttta ttaggctata gagccagtgg
540

ctcccacagg gacctgatac aacagtgcgt taaataagga gcatattgag ctctcatgtc
600

gtaagccagt ggagaagtcc agggctagtg tggggctcc ggcgggggct gtggccccca
660

tccgcatgga gcctccccat ggttcacagg tctcagtctt cggagccttc ggccctgcga
720

gcccgaacgg tccacagggc ggcgccagac cctctttcga acgccatcct ctaaagcggc
780

tggaacaagg ttcttgcagg cctgtgcttg ggcttgaacg ctgggccggg ccgctgcgct
840

ctgtggctcc ctgtaggcct gcggatcggc caggggctc cgttcctttt gggcggaggc
900

tgaagaagca gcggctgcac cagagaaggc cctctgggtg aaggtgggag cgcacggggc
960

ccgcggaacc acctaaggcg acttcagacg tgggctcgga actggcagcc tttcgtttct
1020

gcttcattcc aaggccagag caagccacgt gggcaaaccc aaagccaggg gacaggaaag
1080

tatcctccac ccacaacgaa accatggcaa gcggtggatg caggtacggc caatagtcta
1140

tctatcccgg tgagtgagga gacctgcttt gagggttgca caacctggat ctgcttttac
1200

agtggtgtct gtcactatga agaccccaca gggcggcgcc agaccttctt tcgaacgcca
1260

tcctctaaag cctcggctcc aaccggt
1287

<210> 4254
<211> 114
<212> PRT
<213> Homo sapiens

<400> 4254
Met Val Ser Leu Trp Val Glu Gly Thr Phe Pro Pro Gly Phe Gly
1   5   10   15
Leu Ala His Val Ala Cys Ser Gly His Gly Met Lys Gln Lys Arg Lys
            20   25   30
Pro Ala Ser Ser Glu Pro Met Pro Glu Asp Ala Leu Gly Gly Ser Ala
        35   40   45
Val Pro Val Arg Phe His Leu His Pro Glu Gly Leu Leu Trp Cys Ser
    50   55   60
Arg Cys Phe Phe Ser His Gly Pro Lys Gly Ser Glu Pro Pro Gly Arg
65   70   75   80
Ser Ala Gly Leu Gln Gly Ala Thr Glu Arg Ser Gly Arg Pro Ser Val
            85   90   95
Gln Ala Gln Ala Gln Ala Cys Glu Asn Leu Val Pro Ala Thr Val Trp
            100   105   110
Asp Gly

<210> 4255
<211> 2205
<212> DNA
<213> Homo sapiens

<400> 4255
cccgggcctc aaattctctg tcagaaatga agtaatggct accagccacg tcacagatga
60
atggatgaca caaatggaaa tgagtagcct gaacacttac attgtccgcc gttgcatagc
120
aacacccaat ggcgtcctca gaatttattc tgggtccctc atgggacaag cattggatcc
180
cactaggaaa caatggtatc tccatgcagt agctaatcca gggttgattt ctttgactgg
240
tccttactta gatgttggag gagctggtta tgttgtgaca atcagtcaca caattcattc
300
atccagtaca cagctgtctt ctgggcacac tgtggctgtg atgggcattg acttcacact
360
cagatacttc tacaaagttc tgatggacct attacctgtc tgtaaccaag atggtggcaa
420
caaaataagg tgcttcataa tggaggacag gggttatctg gtggcgcacc cgactctcat
480
cgaccccaaa ggacatgcac ctgtggagca gcagcacatc acccacaagg agcccctggt
540
agcaaatgat atcctcaacc accccaactt tgtaaagaaa aacctgtgca acagcttcag
600
tgacagaacg gtccagaggt tttataaatt caacaccagc cttgcggggg atttgacgaa
660
ccttgtgcat ggcagccact gttccaaata cagattagca aggatcccag gaaccaacgc
720
gtttgttggc attgtcaacg aaacctgcga ctctcttgcc ttctgtgcct gcagcatggt
780
ggaccgactc tgtctcaact gtcaccgaat ggaacaaaat gaatgtgaat gtccttgtga
840
gtgccctcta gaggtcaatg agtgcactgg caacctcacc aatgcagaga ccgaaaccc
900
cagctgcgag gtccaccagg agccggtgac atacacagct attgaccctg gcctgcaaga
960
tgctcttcac cagtgtgtca acagcaggtg cagtcagagg ctggaaagtg gggactgttt
1020
tgggggtgctg gattgtgaat ggtgcatggt ggacagtgat ggaaagactc acctggacaa
1080
accctactgt gcccccccaga aagaatgctt cggggggggatt gtgggagcca aaagtcccta
1140
cgttgatgac atgggagcaa taggtgatga ggtgatcaca ttaaaatgat taaaagcgcc
1200
cctgtgggtc ttgtggctgg agggatcatg ggatgcatca atggttttgg tcctggcggt
1260
gtatgcctac cgccaccaga ttcatcgccg gagccatcag catatgtctc ctcttgctgc
1320
ccaagaaatg tcagtgcgta tgtccaacct ggagaatgac agagatgaaa gggacgacga
1380

```
cagccacgaa gacagaggca tcatcagcaa cactcggttt atagctgcgg tcatcgaacg
1440
acatgcacac agtccagaaa gaaggcgccg ctactggggt cgatcaggaa cagaaagtga
1500
tcatggttac agcaccatga gcccacagga ggacagtgaa aatcctccat gcaacaatga
1560
cccccttgtca gccggggtcg atgtgggaaa ccatgatgag gacttagacc tggatacccc
1620
ccctcagact gctgccctac taagtcacaa gttccaccac taccggtcac accaccctac
1680
acttcatcat agccaccact tacaggcggc cgtcacggta cacactgtcg atgcagaatg
1740
ctaacaatct cctcacctcc acgccaagat gagatctggg agctacagaa tgttctggaa
1800
agaaaaagaa ccggcttaaa acccacagca agagacctcc cttgtgtttg tgctttgtgc
1860
agagttgttt gagtcatttc ctgcctgtcg acatggttaa aaacgagaga aacaacaaca
1920
cagtcacatt tgtgaagatg tgaggctggt tctgaaatgg aggggaaata agcctgatga
1980
acagacctgc cataacacta atggaaggta acagaaggcg aacctccaaa cacagagacg
2040
gaacctgcaa gtgaagctga gccagaggaa tgttccaaag agccagaagc attcagctct
2100
ccttaactgg aagagagaaa aatctgctca cccagagact ggaatgtggc acatgcagat
2160
acaaatgtgt gcattgaaga tttcgctttg tttcttagcg gtacc
2205
```

```
<210> 4256
<211> 384
<212> PRT
<213> Homo sapiens

<400> 4256
Met Ala Thr Ser His Val Thr Asp Glu Trp Met Thr Gln Met Glu Met
1               5                   10                  15
Ser Ser Leu Asn Thr Tyr Ile Val Arg Arg Cys Ile Ala Thr Pro Asn
            20                  25                  30
Gly Val Leu Arg Ile Tyr Ser Gly Ser Leu Met Gly Gln Ala Leu Asp
        35                  40                  45
Pro Thr Arg Lys Gln Trp Tyr Leu His Ala Val Ala Asn Pro Gly Leu
    50                  55                  60
Ile Ser Leu Thr Gly Pro Tyr Leu Asp Val Gly Gly Ala Gly Tyr Val
65                  70                  75                  80
Val Thr Ile Ser His Thr Ile His Ser Ser Ser Thr Gln Leu Ser Ser
                85                  90                  95
Gly His Thr Val Ala Val Met Gly Ile Asp Phe Thr Leu Arg Tyr Phe
            100                 105                 110
Tyr Lys Val Leu Met Asp Leu Leu Pro Val Cys Asn Gln Asp Gly Gly
        115                 120                 125
Asn Lys Ile Arg Cys Phe Ile Met Glu Asp Arg Gly Tyr Leu Val Ala
        130                 135                 140
His Pro Thr Leu Ile Asp Pro Lys Gly His Ala Pro Val Glu Gln Gln
```

```
      145                    150                    155                    160
      His Ile Thr His Lys Glu Pro Leu Val Ala Asn Asp Ile Leu Asn His
                          165                    170                    175
      Pro Asn Phe Val Lys Lys Asn Leu Cys Asn Ser Phe Ser Asp Arg Thr
                      180                    185                    190
      Val Gln Arg Phe Tyr Lys Phe Asn Thr Ser Leu Ala Gly Asp Leu Thr
                  195                    200                    205
      Asn Leu Val His Gly Ser His Cys Ser Lys Tyr Arg Leu Ala Arg Ile
              210                    215                    220
      Pro Gly Thr Asn Ala Phe Val Gly Ile Val Asn Glu Thr Cys Asp Ser
      225                    230                    235                    240
      Leu Ala Phe Cys Ala Cys Ser Met Val Asp Arg Leu Cys Leu Asn Cys
                          245                    250                    255
      His Arg Met Glu Gln Asn Glu Cys Glu Cys Pro Cys Glu Cys Pro Leu
                      260                    265                    270
      Glu Val Asn Glu Cys Thr Gly Asn Leu Thr Asn Ala Glu Asn Arg Asn
                  275                    280                    285
      Pro Ser Cys Glu Val His Gln Glu Pro Val Thr Tyr Thr Ala Ile Asp
              290                    295                    300
      Pro Gly Leu Gln Asp Ala Leu His Gln Cys Val Asn Ser Arg Cys Ser
      305                    310                    315                    320
      Gln Arg Leu Glu Ser Gly Asp Cys Phe Gly Val Leu Asp Cys Glu Trp
                          325                    330                    335
      Cys Met Val Asp Ser Asp Gly Lys Thr His Leu Asp Lys Pro Tyr Cys
                      340                    345                    350
      Ala Pro Gln Lys Glu Cys Phe Gly Gly Ile Val Gly Ala Lys Ser Pro
                  355                    360                    365
      Tyr Val Asp Asp Met Gly Ala Ile Gly Asp Glu Val Ile Thr Leu Lys
              370                    375                    380
```

<210> 4257
<211> 1541
<212> DNA
<213> Homo sapiens

<400> 4257
agacgtcagt gccgtcgagg agctcttcag cgctgcgtac acgtgtaccc cagttcagtt
60
ttcttgacat cttcccaaaa gtcacctgca ggcctcccaa agaggtgata gacatggagc
120
tgagtgccct gaggagtgac acagagcctg ggatggatct ttgggagttc tgcagcgaaa
180
ctttccaaag accttaccag tatttaagac gattcaatcc aaacccagac cttaacccgg
240
ttcaagattc agaaaggttt tgccgaaggc cccccggagg aatgcctcca gcatttcctg
300
tttcactggg gggtaataaa cccatcctgg ccaaacctcc ggaactttgc tcggttcctg
360
aattatcagc tcagagattg tgaggcctct ctcttctgca atccgagttt tattggcgac
420
acactgaggg gcttcaagaa gttcgtggtg accttcatga tctttatggc aagagatttt
480
gccacaccat cactccacac ctctgaccaa agcccgggga agcacatggt caccatggat
540
```

ggggttaggg aagaagatct agcgcccttc tccctccgga agaggtggga gtcggagcct
600
cacccatacg ttttcttcaa tgacgaccac acaaccatga cattcatcgg cttccatctg
660
cagcccaaca tcaacggcag tgtcgatgcc atcagtcact tgactgggaa ggtcatcaag
720
agagacgtca tgaccaggga cctgtaccag ggcctgctgc tccagagggt gcccttcaat
780
gtcgactttg ataaactgcc cagacacaag aaacttgaga ggctctgcct gaccttaggg
840
atcccccagg ccaccgaccc cgacaaaacg tatgagctca caaccgacaa tatgcttaaa
900
atccttgcca tcgagatgcg gttccggtgt gggatccccg ttatcatcat gggagaaact
960
ggctgtggga aaaccaggct tattaaattc cttagcgacc tgcggcgtgg tggtaccaat
1020
gctgacacca taaagctggt caaggtgcac ggaggaacaa ctgcagacat gatctactcc
1080
agagtcaggg aggctgaaaa tgtggccttc gccaataagg accaacatca gttggacacc
1140
atcttgtttt ttgatgaagc caacacaacg gaagctataa gctgtatcaa agaagtcctg
1200
tgtgatcata tggtggatgg ccagcctctg gctgaggact ctggcctgca tattatagct
1260
gcctgcaatc catacccgga gaactctgag gagatgatct gccgtttgga gtcagctggt
1320
ttgggctaca gggttagtat ggaggagacg gccgacaggc tgggctccat tcctctgggg
1380
tacacgtgta cgcagcgctg aagagctcct cgacggcact gacgtcctcc tttccaggat
1440
ttcaacgata tacaaatggc aggggttccg aagccacatt ttcccattta tatccattaa
1500
gtattgtaaa atgaggagct tgaaaagaaa cacccgaatt c
1541

<210> 4258
<211> 314
<212> PRT
<213> Homo sapiens

<400> 4258
Met Ile Phe Met Ala Arg Asp Phe Ala Thr Pro Ser Leu His Thr Ser
1   5   10   15
Asp Gln Ser Pro Gly Lys His Met Val Thr Met Asp Gly Val Arg Glu
            20   25   30
Glu Asp Leu Ala Pro Phe Ser Leu Arg Lys Arg Trp Glu Ser Glu Pro
        35   40   45
His Pro Tyr Val Phe Phe Asn Asp Asp His Thr Thr Met Thr Phe Ile
        50   55   60
Gly Phe His Leu Gln Pro Asn Ile Asn Gly Ser Val Asp Ala Ile Ser
65   70   75   80
His Leu Thr Gly Lys Val Ile Lys Arg Asp Val Met Thr Arg Asp Leu
                85   90   95
Tyr Gln Gly Leu Leu Leu Gln Arg Val Pro Phe Asn Val Asp Phe Asp

```
               100                    105                    110
Lys Leu Pro Arg His Lys Lys Leu Glu Arg Leu Cys Leu Thr Leu Gly
          115                    120                    125
Ile Pro Gln Ala Thr Asp Pro Asp Lys Thr Tyr Glu Leu Thr Thr Asp
          130                    135                    140
Asn Met Leu Lys Ile Leu Ala Ile Glu Met Arg Phe Arg Cys Gly Ile
145                    150                    155                    160
Pro Val Ile Ile Met Gly Glu Thr Gly Cys Gly Lys Thr Arg Leu Ile
              165                    170                    175
Lys Phe Leu Ser Asp Leu Arg Arg Gly Gly Thr Asn Ala Asp Thr Ile
              180                    185                    190
Lys Leu Val Lys Val His Gly Gly Thr Thr Ala Asp Met Ile Tyr Ser
          195                    200                    205
Arg Val Arg Glu Ala Glu Asn Val Ala Phe Ala Asn Lys Asp Gln His
          210                    215                    220
Gln Leu Asp Thr Ile Leu Phe Phe Asp Glu Ala Asn Thr Thr Glu Ala
225                    230                    235                    240
Ile Ser Cys Ile Lys Glu Val Leu Cys Asp His Met Val Asp Gly Gln
              245                    250                    255
Pro Leu Ala Glu Asp Ser Gly Leu His Ile Ile Ala Ala Cys Asn Pro
          260                    265                    270
Tyr Pro Glu Asn Ser Glu Glu Met Ile Cys Arg Leu Glu Ser Ala Gly
          275                    280                    285
Leu Gly Tyr Arg Val Ser Met Glu Glu Thr Ala Asp Arg Leu Gly Ser
          290                    295                    300
Ile Pro Leu Gly Tyr Thr Cys Thr Gln Arg
305                    310
```

```
<210> 4259
<211> 377
<212> DNA
<213> Homo sapiens


<400> 4259
tctgcgacgg gacccggcgt gcccatgtgt caggtgggcg aggactacgg ggagccggcg
60
cctgaggagc cgcccccggc gccgcggccc agccgtgagc agaagtgtgt gaagtgcaag
120
gaagcgcagc ccgttgtggt gatacgagcc ggagatgcct tctgcaggga ctgtttcaag
180
gccttctacg tccacaagtt cagagccatg ctgggcaaga accggctcat ctttccaggc
240
gagaaggtgc tcttggcgtg gtctgggggg ccttcgtcca gctccatggt ctggcaggtt
300
cttgagggcc tgagccaaga ttctgccaaa agactgcgct tgtggcagg agtcatcttt
360
gttgacgagg gagcagc
377


<210> 4260
<211> 125
<212> PRT
<213> Homo sapiens
```

<400> 4260
```
Ser Ala Thr Gly Pro Gly Val Pro Met Cys Gln Val Gly Glu Asp Tyr
1               5               10              15
Gly Glu Pro Ala Pro Glu Glu Pro Pro Ala Pro Arg Pro Ser Arg
            20              25              30
Glu Gln Lys Cys Val Lys Cys Lys Glu Ala Gln Pro Val Val Val Ile
        35              40              45
Arg Ala Gly Asp Ala Phe Cys Arg Asp Cys Phe Lys Ala Phe Tyr Val
    50              55              60
His Lys Phe Arg Ala Met Leu Gly Lys Asn Arg Leu Ile Phe Pro Gly
65              70              75              80
Glu Lys Val Leu Leu Ala Trp Ser Gly Gly Pro Ser Ser Ser Ser Met
            85              90              95
Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser Ala Lys Arg Leu
        100             105             110
Arg Phe Val Ala Gly Val Ile Phe Val Asp Glu Gly Ala
    115             120             125
```

<210> 4261
<211> 592
<212> DNA
<213> Homo sapiens

<400> 4261
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acgcgttact cctaccaggt tgtagcatgc atcttttga gagagcagct gggatcgagt
60
atactcttga cttaaatatg tttgtttata aagacaaatg gagaaatcaa ttttttttccc
120
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180
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<213> Homo sapiens

<400> 4262
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Asn Tyr Leu Arg His Gly Gln Leu Ile Val Asn Asp Gly Ile Asn Leu
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Leu Gly Val Leu Glu Glu Ala Arg Phe Phe Gly Ile Asp Ser Leu Ile
65                      70                    75                    80
Glu His Leu Glu Val Ala Ile Lys Asn Ser Gln Pro Pro Glu Asp His
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Thr Lys Ser Glu Leu Arg Cys Gln Gly Leu Asn Phe Ser Gly Ala Asp
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3459

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<213> Homo sapiens

<400> 4264
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Met Gln Lys Phe Leu Gly Ser Tyr Phe Ile Thr Trp Asp Glu Asp Met
            35                  40                  45
Phe Asp Glu Glu Thr Gly Glu Gly Pro Leu Val Asn Thr Ser Asp Leu
        50                  55                  60
Asn Glu Glu Leu Gly Gln Val Glu Tyr Ile Phe Thr Asp Lys Thr Gly
65                  70                  75                  80
Thr Leu Thr Glu Asn Asn Met Glu Phe Lys Glu Cys Cys Ile Glu Gly
                85                  90                  95
His Val Tyr Val Pro His Val Ile Cys Asn Gly Gln Val Leu Pro Glu
                100                 105                 110
Ser Ser Gly Ile Asp Met Ile Asp Ser Ser Pro Ser Val Asn Gly Arg
            115                 120                 125
Glu Arg Glu Glu Leu Phe Phe Arg Ala Leu Cys Leu Cys His Thr Val
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Gly Gly Lys Ser Cys Val Tyr Ile Ser Ser Ser Pro Asp Glu Val Ala
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Asp Asn Tyr Met Glu Ile Leu Asn Arg Glu Asn His Ile Glu Arg Phe
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Glu Leu Leu Glu Ile Leu Ser Phe Asp Ser Val Arg Arg Arg Met Ser
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Val Ile Val Lys Ser Ala Thr Gly Glu Ile Tyr Leu Phe Cys Lys Gly
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Ala Asp Ser Ser Ile Phe Pro Arg Val Ile Glu Gly Lys Val Asp Gln
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Ile Arg Ala Arg Val Glu Arg Asn Ala Val Glu Gly Leu Arg Thr Leu
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Cys Val Ala Tyr Lys Arg Leu Ile Gln Glu Glu Tyr Glu Gly Ile Cys
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Ala Thr Ala Val Glu Asp Arg Leu Gln Glu Lys Ala Ala Asp Thr Ile
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Glu Ala Leu Gln Lys Ala Gly Ile Lys Val Trp Val Leu Thr Gly Asp
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Lys Met Glu Thr Ala Ala Ala Thr Cys Tyr Ala Cys Lys Leu Phe Arg
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Arg Asn Thr Gln Leu Leu Glu Leu Thr Thr Lys Arg Ile Glu Glu Gln
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Pro Ile Thr Leu Ala Ile Gly Asp Gly Ala Asn Asp Val Ser Met Ile
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Leu Glu Ala His Val Gly Ile Gly Val Ile Gly Lys Glu Gly Arg Gln
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Ala Ala Arg Asn Ser Asp Tyr Ala Ile Pro Lys Phe Lys His Leu Lys
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Lys Met Leu Leu Val His Gly His Phe Tyr Tyr Ile Arg Ile Ser Glu
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Leu Val Gln Tyr Phe Phe Tyr Lys Asn Val Cys Phe Ile Phe Pro Gln
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Ser Asn Gly Gln Ile Phe Gly Asn Trp Thr Phe Gly Thr Leu Val Phe
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Thr Val Met Val Phe Thr Val Thr Leu Lys Leu Ala Leu Asp Thr His
        675                 680                 685
Tyr Trp Thr Trp Ile Asn His Phe Val Ile Trp Gly Ser Leu Leu Phe
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Tyr Val Val Phe Ser Leu Leu Trp Gly Gly Val Ile Trp Pro Phe Leu
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3464

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Pro Ala Trp Leu Ala Ile Val Leu Leu Val Thr Ile Ser Leu Leu Pro
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Asp Val Leu Lys Lys Val Leu Cys Arg Gln Leu Trp Pro Thr Ala Thr
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Glu Arg Val Gln Thr Lys Ser Gln Cys Leu Ser Val Glu Gln Ser Thr
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<213> Homo sapiens

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<210> 4266
<211> 613
<212> PRT
<213> Homo sapiens

<400> 4266
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3466

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Ile Leu Val Ser Ile Ala Gly Lys Asn Val Met Leu Asp Cys Gly Met
            35                   40                   45
His Met Gly Phe Asn Asp Asp Arg Arg Phe Pro Asp Phe Ser Tyr Ile
      50                   55                   60
Thr Gln Asn Gly Arg Leu Thr Asp Phe Leu Asp Cys Val Ile Ile Ser
65                   70                   75                   80
His Phe His Leu Asp His Cys Gly Ala Leu Pro Tyr Phe Ser Glu Met
                  85                   90                   95
Val Gly Tyr Asp Gly Pro Ile Tyr Met Thr His Pro Thr Gln Ala Ile
            100                  105                  110
Cys Pro Ile Leu Leu Glu Asp Tyr Arg Lys Ile Ala Val Asp Lys Lys
            115                  120                  125
Gly Glu Ala Asn Phe Phe Thr Ser Gln Met Ile Lys Asp Cys Met Lys
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Lys Val Val Ala Val His Leu His Gln Thr Val Gln Val Asp Asp Glu
145                  150                  155                  160
Leu Glu Ile Lys Ala Tyr Tyr Ala Gly His Val Leu Gly Ala Ala Met
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Phe Gln Ile Lys Val Gly Ser Glu Ser Val Val Tyr Thr Gly Asp Tyr
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Asn Met Thr Pro Asp Arg His Leu Gly Ala Ala Trp Ile Asp Lys Cys
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Arg Pro Asn Leu Leu Ile Thr Glu Ser Thr Tyr Ala Thr Thr Ile Arg
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Asp Ser Lys Arg Cys Arg Glu Arg Asp Phe Leu Lys Lys Val His Glu
225                  230                  235                  240
Thr Val Glu Arg Gly Gly Lys Val Leu Ile Pro Val Phe Ala Leu Gly
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Arg Ala Gln Glu Leu Cys Ile Leu Leu Glu Thr Phe Trp Glu Arg Met
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Asn Leu Lys Val Pro Ile Tyr Phe Ser Thr Gly Leu Thr Glu Lys Ala
            275                  280                  285
Asn His Tyr Tyr Lys Leu Phe Ile Pro Trp Thr Asn Gln Lys Ile Arg
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Lys Thr Phe Val Gln Arg Asn Met Phe Glu Phe Lys His Ile Lys Ala
305                  310                  315                  320
Phe Asp Arg Ala Phe Ala Asp Asn Pro Gly Pro Met Val Val Phe Ala
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Thr Pro Gly Met Leu His Ala Gly Gln Ser Leu Gln Ile Phe Arg Lys
            340                  345                  350
Trp Ala Gly Asn Glu Lys Asn Met Val Ile Met Pro Gly Tyr Cys Val
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Gln Gly Thr Val Gly His Lys Ile Leu Ser Gly Gln Arg Lys Leu Glu
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Met Glu Gly Arg Gln Val Leu Glu Val Lys Met Gln Val Glu Tyr Met
385                  390                  395                  400
Ser Phe Ser Ala His Ala Asp Ala Lys Gly Ile Met Gln Leu Val Gly
                  405                  410                  415
Gln Ala Glu Pro Glu Ser Val Leu Leu Val His Gly Glu Ala Lys Lys
            420                  425                  430
Met Glu Phe Leu Lys Gln Lys Ile Glu Gln Glu Leu Arg Val Asn Cys
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3467

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Tyr Met Pro Ala Asn Gly Glu Thr Val Thr Leu Pro Thr Ser Pro Ser
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Ile Pro Val Gly Ile Ser Leu Gly Leu Leu Lys Arg Glu Met Ala Gln
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Gly Leu Leu Pro Glu Ala Lys Lys Pro Arg Leu Leu His Gly Thr Leu
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Ile Met Lys Asp Ser Asn Phe Arg Leu Val Ser Ser Glu Gln Ala Leu
                500                     505                     510
Lys Glu Leu Gly Leu Ala Glu His Gln Leu Arg Phe Thr Cys Arg Val
        515                     520                     525
His Leu His Asp Thr Arg Lys Glu Gln Glu Thr Ala Leu Arg Val Tyr
        530                     535                     540
Ser His Leu Lys Ser Val Leu Lys Asp His Cys Val Gln His Leu Pro
545                     550                     555                     560
Asp Gly Ser Val Thr Val Glu Ser Val Leu Leu Gln Ala Ala Ala Pro
                565                     570                     575
Ser Glu Asp Pro Gly Thr Lys Val Leu Leu Val Ser Trp Thr Tyr Gln
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Asp Glu Glu Leu Gly Ser Phe Leu Thr Ser Leu Leu Lys Lys Gly Leu
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Pro Gln Ala Pro Ser
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<210> 4267
<211> 2230
<212> DNA
<213> Homo sapiens

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120
tggattaaga cagaagatgg ctggaagaga tgtgaatctt gtagtcagaa acttgaaaga
180
gagaataacc attgtaacat cagtcacagc attatcttaa atagtgaaga tggagaaata
240
ctcaataatg aagagcatga atatgcatcc aaaaaaagga aaaaggacca ttttagaaat
300
gacacaaata ctcaaagttt ttatcatgaa aaatggatct atgtccataa agaaagcaca
360
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420
gcaattcaag atatccgaag gttcaattat gtggtcaaac tgttgcagct aattgcaaaa
480
tcccagttaa cttcattgag tggcgtggca cagaagaatt acttcaacat tttggataaa
540
atcgttcaaa aggttcttga tgaccaccac aatcctcgct taatcaaaga tcttctgcaa
600
gacctaagct ctaccctcnt gcattcttat tagaggagta gggaagtctg tattagtggg
660
aaacatcaat atttggattt gccgattaga aactattctc gcctggcaac aacagctaca
720
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3468

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900
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960
gaatggaagt tgatgtactt tgcacttcag aaacattacc cagcgaagga gcagtacgga
1020
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1080
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2230
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<210> 4268

<211> 210
<212> PRT
<213> Homo sapiens

<400> 4268

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Ala Gly Ala Pro Val Gly His Trp Gly Thr Arg Ala Arg Gln Val Lys
1               5                   10                  15
Thr Gly Gly Cys Arg Arg Ala Arg Arg Thr Met Pro Phe Leu Gly Gln
            20                  25                   30
Asp Trp Arg Ser Pro Gly Trp Ser Trp Ile Lys Thr Glu Asp Gly Trp
        35                  40                  45
Lys Arg Cys Glu Ser Cys Ser Gln Lys Leu Glu Arg Glu Asn Asn His
    50                  55                  60
Cys Asn Ile Ser His Ser Ile Ile Leu Asn Ser Glu Asp Gly Glu Ile
65                  70                  75                  80
Leu Asn Asn Glu Glu His Glu Tyr Ala Ser Lys Lys Arg Lys Lys Asp
            85                  90                  95
His Phe Arg Asn Asp Thr Asn Thr Gln Ser Phe Tyr His Glu Lys Trp
            100                 105                 110
Ile Tyr Val His Lys Glu Ser Thr Lys Glu Arg His Gly Tyr Cys Thr
        115                 120                 125
Leu Gly Glu Thr Phe Asn Arg Leu Asp Phe Ser Ser Ala Ile Gln Asp
    130                 135                 140
Ile Arg Arg Phe Asn Tyr Val Val Lys Leu Leu Gln Leu Ile Ala Lys
145                 150                 155                 160
Ser Gln Leu Thr Ser Leu Ser Gly Val Ala Gln Lys Asn Tyr Phe Asn
            165                 170                 175
Ile Leu Asp Lys Ile Val Gln Lys Val Leu Asp Asp His His Asn Pro
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Arg Leu Ile Lys Asp Leu Leu Gln Asp Leu Ser Ser Thr Leu Xaa His
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Ser Tyr
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<210> 4269
<211> 5748
<212> DNA
<213> Homo sapiens

<400> 4269
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420
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3472

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3473

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5748

<210> 4270
<211> 1084
<212> PRT
<213> Homo sapiens

<400> 4270
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Gln Arg Gly Arg Val Leu Pro Pro Pro Ala Pro Leu Asp Thr Thr Asn
            35   40   45
Leu Ala Gly Arg Arg Thr Leu Gln Gly Arg Ala Lys Met Ala Ser Val
        50   55   60
Pro Val Tyr Cys Leu Cys Arg Leu Pro Tyr Asp Val Thr Arg Phe Met
65   70   75   80
Ile Glu Cys Asp Met Cys Gln Asp Trp Phe His Gly Ser Cys Val Gly
                85   90   95
Val Glu Glu Glu Lys Ala Ala Asp Ile Asp Leu Tyr His Cys Pro Asn
            100   105   110
Cys Glu Val Leu His Gly Pro Ser Ile Met Lys Lys Arg Arg Gly Ser
        115   120   125
Ser Lys Gly His Asp Thr His Lys Gly Lys Pro Val Lys Thr Gly Ser
        130   135   140
Pro Thr Phe Val Arg Glu Leu Arg Ser Arg Thr Phe Asp Ser Ser Asp
145   150   155   160
Glu Val Ile Leu Lys Pro Thr Gly Asn Gln Leu Thr Val Glu Phe Leu
                165   170   175
Glu Glu Asn Ser Phe Ser Val Pro Ile Leu Val Leu Lys Lys Asp Gly
            180   185   190
Leu Gly Met Thr Leu Pro Ser Pro Ser Phe Thr Val Arg Asp Val Glu
            195   200   205
His Tyr Val Gly Ser Asp Lys Glu Ile Asp Val Ile Asp Val Thr Arg
        210   215   220
Gln Ala Asp Cys Lys Met Lys Leu Gly Asp Phe Val Lys Tyr Tyr Tyr
225   230   235   240
Ser Gly Lys Arg Glu Lys Val Leu Asn Val Ile Ser Leu Glu Phe Ser

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                        245                      250                      255
        Asp Thr Arg Leu Ser Asn Leu Val Glu Thr Pro Lys Ile Val Arg Lys
                    260                      265                      270
        Leu Ser Trp Val Glu Asn Leu Trp Pro Glu Glu Cys Val Phe Glu Arg
                    275                      280                      285
        Pro Asn Val Gln Lys Tyr Cys Leu Met Ser Val Arg Asp Ser Tyr Thr
                    290                      295                      300
        Asp Phe His Ile Asp Phe Gly Gly Thr Ser Val Trp Tyr His Val Leu
        305                      310                      315                      320
        Lys Gly Glu Lys Ile Phe Tyr Leu Ile Arg Pro Thr Asn Ala Asn Leu
                    325                      330                      335
        Thr Leu Phe Glu Cys Trp Ser Ser Ser Ser Asn Gln Asn Glu Met Phe
                    340                      345                      350
        Phe Gly Asp Gln Val Asp Lys Cys Tyr Lys Cys Ser Val Lys Gln Gly
                    355                      360                      365
        Gln Thr Leu Phe Ile Pro Thr Gly Trp Ile His Ala Val Leu Thr Pro
                    370                      375                      380
        Val Asp Cys Leu Ala Phe Gly Gly Asn Phe Leu His Ser Leu Asn Ile
        385                      390                      395                      400
        Glu Met Gln Leu Lys Ala Tyr Glu Ile Glu Lys Arg Leu Ser Thr Ala
                    405                      410                      415
        Asp Leu Phe Arg Phe Pro Asn Phe Glu Thr Ile Cys Trp Tyr Val Gly
                    420                      425                      430
        Lys His Ile Leu Asp Ile Phe Arg Gly Leu Arg Glu Asn Arg Arg His
                    435                      440                      445
        Pro Ala Ser Tyr Leu Val His Gly Gly Lys Ala Leu Asn Leu Ala Phe
                    450                      455                      460
        Arg Ala Trp Thr Arg Lys Glu Ala Leu Pro Asp His Glu Asp Glu Ile
        465                      470                      475                      480
        Pro Glu Thr Val Arg Thr Val Gln Leu Ile Lys Asp Leu Ala Arg Glu
                    485                      490                      495
        Ile Arg Leu Val Glu Asp Ile Phe Gln Gln Asn Val Gly Lys Thr Ser
                    500                      505                      510
        Asn Ile Phe Gly Leu Gln Arg Ile Phe Pro Ala Gly Ser Ile Pro Leu
                    515                      520                      525
        Thr Arg Pro Ala His Ser Thr Ser Val Ser Met Ser Arg Leu Ser Leu
                    530                      535                      540
        Pro Ser Lys Asn Gly Ser Lys Lys Lys Gly Leu Lys Pro Lys Glu Leu
        545                      550                      555                      560
        Phe Lys Lys Ala Glu Arg Lys Gly Lys Glu Ser Ser Ala Leu Gly Pro
                    565                      570                      575
        Ala Gly Gln Leu Ser Tyr Asn Leu Met Asp Thr Tyr Ser His Gln Ala
                    580                      585                      590
        Leu Lys Thr Gly Ser Phe Gln Lys Ala Lys Phe Asn Ile Thr Gly Ala
                    595                      60?                      605
        Cys Leu Asn Asp Ser Asp Asp Asp Ser Pro Asp Leu Asp Leu Asp Gly
        610                      615                      620
        Asn Glu Ser Pro Leu Ala Leu Leu Met Ser Asn Gly Ser Thr Lys Arg
        625                      630                      635                      640
        Val Lys Ser Leu Ser Lys Ser Arg Arg Thr Lys Ile Ala Lys Lys Val
                    645                      650                      655
        Asp Lys Ala Arg Leu Met Ala Glu Gln Val Met Glu Asp Glu Phe Asp
                    660                      665                      670
        Leu Asp Ser Asp Asp Glu Leu Gln Ile Asp Glu Arg Leu Gly Lys Glu
```

```
                    675                 680                 685
        Lys Ala Thr Leu Ile Ile Arg Pro Lys Phe Pro Arg Lys Leu Pro Arg
            690                 695                 700
        Ala Lys Pro Cys Ser Asp Pro Asn Arg Val Arg Glu Pro Gly Glu Val
        705                 710                 715                 720
        Glu Phe Asp Ile Glu Glu Asp Tyr Thr Thr Asp Glu Asp Met Val Glu
                        725                 730                 735
        Gly Val Glu Gly Lys Leu Gly Asn Gly Ser Gly Ala Gly Gly Ile Leu
                    740                 745                 750
        Asp Leu Leu Lys Ala Ser Arg Gln Val Gly Gly Pro Asp Tyr Ala Ala
                    755                 760                 765
        Leu Thr Glu Ala Pro Ala Ser Pro Ser Thr Gln Glu Ala Ile Gln Gly
                770                 775                 780
        Met Leu Cys Met Ala Asn Leu Gln Ser Ser Ser Ser Ser Pro Ala Thr
        785                 790                 795                 800
        Ser Ser Leu Gln Ala Trp Trp Thr Gly Gly Gln Asp Arg Ser Ser Gly
                        805                 810                 815
        Ser Ser Ser Ser Gly Leu Gly Thr Val Ser Asn Ser Pro Ala Ser Gln
                    820                 825                 830
        Arg Thr Pro Gly Lys Arg Pro Ile Lys Arg Pro Ala Tyr Trp Arg Thr
                    835                 840                 845
        Glu Ser Glu Glu Glu Glu Glu Asn Ala Ser Leu Asp Glu Gln Asp Ser
            850                 855                 860
        Leu Gly Ala Cys Phe Lys Asp Ala Glu Tyr Ile Tyr Pro Ser Leu Glu
        865                 870                 875                 880
        Ser Asp Asp Asp Asp Pro Ala Leu Lys Ser Arg Pro Lys Lys Lys Lys
                        885                 890                 895
        Asn Ser Asp Asp Ala Pro Trp Ser Pro Lys Ala Arg Val Thr Pro Thr
                    900                 905                 910
        Leu Pro Lys Gln Asp Arg Pro Val Arg Glu Gly Thr Arg Val Ala Ser
                    915                 920                 925
        Ile Glu Thr Gly Leu Ala Ala Ala Ala Ala Lys Leu Ala Gln Gln Glu
            930                 935                 940
        Leu Gln Lys Ala Gln Lys Lys Lys Tyr Ile Lys Lys Lys Pro Leu Leu
        945                 950                 955                 960
        Lys Glu Val Glu Gln Pro Arg Pro Gln Asp Ser Asn Leu Ser Leu Thr
                        965                 970                 975
        Val Pro Ala Pro Thr Val Ala Ala Thr Pro Gln Leu Val Thr Ser Ser
                    980                 985                 990
        Ser Pro Leu Pro Pro Pro Glu Pro Lys Gln Glu Ala Leu Ser Gly Ser
                    995                 1000                1005
        Leu Ala Asp His Glu Tyr Thr Ala Arg Pro Asn Ala Phe Gly Met Ala
            1010                1015                1020
        Gln Ala Asn Arg Ser Thr Thr Pro Met Ala Pro Gly Val Phe Leu Thr
        1025                1030                1035                1040
        Gln Arg Arg Pro Ser Val Gly Ser Gln Ser Asn Gln Ala Gly Gln Gly
                        1045                1050                1055
        Lys Arg Pro Lys Lys Gly Leu Ala Thr Ala Lys Gln Arg Leu Gly Arg
                    1060                1065                1070
        Ile Leu Lys Ile His Arg Asn Gly Lys Leu Leu Leu
                    1075                1080
```

<210> 4271
<211> 588

3476

<210> DNA
<213> Homo sapiens

<400> 4271
accatgtcat ttcctttgaa ctcaccggga cagcaatctg gattaaagat actacgacaa
60
ctgactactg attttgtcca tcactacatt gttgccaata acttttcaga gcttttccat
120
ttgctgtcct caagaaattg caaaaccaga aatcttgtta tgaaactact tttaaatatg
180
tctgaaaatc caactgcagc cagagacatg atcaatatga aggcattggc agcattaaaa
240
ctcatcttta accacaaaga ggcaaaagcc aatcttgtta gtggtgtggc catatttatt
300
aacataaagg agcatatcag aaaaggctca attgtagtta ataaatatgg ccacaccact
360
aacaagattg gcttttgcct ctttctggtt aaagatgagt tttaatgctg ccaatgcctt
420
catattgatc atgtctctgg ctgcagttgg attttcagac atatttaaaa gtagtttcaa
480
aacaagattt ctggttttgc aatttcctga ggacagcaaa tggaaaagct ctgaaaagta
540
attggcaaca atgtagtgat ggacaaaatc agtagtcagt tgtccgtc
588

<210> 4272
<211> 134
<212> PRT
<213> Homo sapiens

<400> 4272
Thr Met Ser Phe Pro Leu Asn Ser Pro Gly Gln Gln Ser Gly Leu Lys
1   5   10   15
Ile Leu Arg Gln Leu Thr Thr Asp Phe Val His His Tyr Ile Val Ala
            20   25   30
Asn Asn Phe Ser Glu Leu Phe His Leu Leu Ser Ser Arg Asn Cys Lys
        35   40   45
Thr Arg Asn Leu Val Met Lys Leu Leu Leu Asn Met Ser Glu Asn Pro
    50   55   60
Thr Ala Ala Arg Asp Met Ile Asn Met Lys Ala Leu Ala Ala Leu Lys
65   70   75   80
Leu Ile Phe Asn His Lys Glu Ala Lys Ala Asn Leu Val Ser Gly Val
                85   90   95
Ala Ile Phe Ile Asn Ile Lys Glu His Ile Arg Lys Gly Ser Ile Val
            100   105   110
Val Asn Lys Tyr Gly His Thr Thr Asn Lys Ile Gly Phe Cys Leu Phe
        115   120   125
Leu Val Lys Asp Glu Phe
    130

<210> 4273
<211> 2081
<212> DNA
<213> Homo sapiens

<400> 4273
nggatggatt agccattgtt cgagtgggtg gatgggtgga tgaatagatg ggtggaggat
60
agataggtgg gtgtatgggt gggtggatgg attgatgcat ggatggatgg gctgcccatt
120
gagtaggtgc atgagtggat aaatgggtgg gtgggtaggt gaatagatgt atagatttat
180
aatagggggga agggtggatt ggtagatggg tagatggagg gatacattgc tgtgtggata
240
ggtgggtgaa tggatgaagg agggagggat gggcaggtag atggatagat tagtggatgg
300
atgggtggat gggctgacaa atggcttgtt cccagactgt ttgtccttgg gtggagtcat
360
gcaggtatct attgcagctg ggcctgaact gatatctgaa gagagaagtg gagacagcga
420
ccagacagat gaggatggag aacctggctc agaggcccag gcccaggccc agccctttgg
480
cagcaaaaaa aagcgcctcc tctccgtcca cgacttcgac ttcgagggag actcagatga
540
ctccactcag cctcaaggtc actccctgca cctgtcctca gtccctgagg ccagggacag
600
cccacagtcc ctcacagatg agtcctgctc agagaaggca gcccctcaca aggctgaggg
660
cctggaggag gctgatactg gggcctctgg gtgccactcc catccggaag agcagccgac
720
cagcatctca ccttccagac acggcgccct ggctgagctc tgcccgcctg gaggctccca
780
tagggaatgg ccctggggaa actgctgctg cactcgggtc ggatgtcatc aggaatgagc
840
agctgcccct gcagtacttg gccgatgtgg gacacctctg atgaggaaag catccgggct
900
cacgtgatgg cctcccacca ttccaagcgg agaggccggg cgtcttctga gagtcagggt
960
ctaggtgctg gagtgcgcac ggagcncgac gtagaggagg aggccctgag gaggaagctg
1020
gaggagctga ccagcaacgt cagtgaccag gagaccttcg tccgaggagg aggaagccaa
1080
ggacgaaaat gcagagccca cagggacaa atcagttggg cctctccccc aggcggaccc
1140
ggacggtggc acggctgccc atcaaaccaa cagacaggaa aaaagcccca ggaccctggg
1200
gaccccgtcc agtacaacag gaccacagat gaggagctgt cagagctgga ggacagagtg
1260
gcagtgacgg cctcagaagt ccagcaggca gagagcgagg tttcagacat tgaatccagg
1320
attgcagccc tgagggccgc agggctcacg gtgaagccct cgggaaagcc ccggaggaag
1380
tcaaacctcc cgatatttct ccctcgagtg gctgggaaac ttggcaagag accagaggac
1440
ccaaatgcag acccttcaag tgaggccaag gcaatggctg tgcctatctt ctgagaagaa
1500
agttcagtaa ttccctgaaa agtcaaggta aagatgatga ttcttttgat cggaaatcag
1560

tgtaccgagg ctcgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca
1620
ccttcgcgaa acctgtggtg gcccaccagt cctaacggga caggacagag agacagagca
1680
gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc
1740
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac atggactccc
1800
acctgcaagt ggacagcgac attcagtcct gcactgctca cctgggttta ctgatgactc
1860
ctggctgccc caccatcctc tctgatctgt gagaaacagc taagctgctg tgacttccct
1920
ttaggacaat gttgtgtaaa tctttgaagg acacaccgaa gacctttata ctgtgatctt
1980
ttaccccttt cactcttggc tttcttatgt tgctttcatg aatggaatgg aaaaaagatg
2040
actcagttaa ggcaccaaaa aaaaaaaaaa aaaagtcgag c
2081

<210> 4274
<211> 235
<212> PRT
<213> Homo sapiens

<400> 4274
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Met Ala Leu Gly Lys Leu Leu Leu His Ser Gly Arg Met Ser Ser Gly
1               5                   10                  15
Met Ser Ser Cys Pro Cys Ser Thr Trp Pro Met Trp Asp Thr Ser Asp
            20                  25                  30
Glu Glu Ser Ile Arg Ala His Val Met Ala Ser His His Ser Lys Arg
        35                  40                  45
Arg Gly Arg Ala Ser Ser Glu Ser Gln Gly Leu Gly Ala Gly Val Arg
    50                  55                  60
Thr Glu Xaa Asp Val Glu Glu Glu Ala Leu Arg Arg Lys Leu Glu Glu
65                  70                  75                  80
Leu Thr Ser Asn Val Ser Asp Gln Glu Thr Phe Val Arg Gly Gly Gly
                85                  90                  95
Ser Gln Gly Arg Lys Cys Arg Ala Gln Gln Gly Gln Ile Ser Trp Ala
            100                 105                 110
Ser Pro Pro Gly Gly Pro Gly Arg Trp His Gly Cys Pro Ser Asn Gln
        115                 120                 125
Gln Thr Gly Lys Lys Pro Gln Asp Pro Gly Asp Pro Val Gln Tyr Asn
        130                 135                 140
Arg Thr Thr Asp Glu Glu Leu Ser Glu Leu Glu Asp Arg Val Ala Val
145                 150                 155                 160
Thr Ala Ser Glu Val Gln Gln Ala Glu Ser Glu Val Ser Asp Ile Glu
                165                 170                 175
Ser Arg Ile Ala Ala Leu Arg Ala Ala Gly Leu Thr Val Lys Pro Ser
            180                 185                 190
Gly Lys Pro Arg Arg Lys Ser Asn Leu Pro Ile Phe Leu Pro Arg Val
        195                 200                 205
Ala Gly Lys Leu Gly Lys Arg Pro Glu Asp Pro Asn Ala Asp Pro Ser
    210                 215                 220
Ser Glu Ala Lys Ala Met Ala Val Pro Ile Phe
```

225   230   235

<210> 4275
<211> 874
<212> DNA
<213> Homo sapiens

<400> 4275
atgcaggtgg ccctgggtgc acatctacga gatgccaggc gcgggcagag gctccgctca
60
ggggcgcacg tagtggtcac tggaccccc aatgcgggca agagcagcct agtgaacctg
120
ctcagtcgga agcctgtgtc catcgtgtcc ccggagccag ggaccacccg tgacgtgctg
180
gagaccccag tcgacctggc cggatttcct gtgctgctga cgacacggc tgggttgcgg
240
gagggcgtgg ggcccgtgga gcaggagggc gtgcggcgcg cccgggagag gctagagcag
300
gctgacctca ttctggccat gctggatgct tctgacctgg cctctccctc cagttgcaac
360
ttcctggcca ccgtcgtagc ctctgtggga gcccagagcc ccagtgacag cagccagcgc
420
ctcctcctgg tgctgaacaa gtcggacctg ctgtccccgg agggcccagg tcccggtcct
480
gacctgcccc cgcacctgct gctgtcctgt ctgacgggag aggggctgga cggcctcctg
540
gaggcgctga ggaaggagct agctgcagtg tgtggggacc cgtccacaga tccccgctg
600
ctgacccgag caaggcacca gcaccacctc cagggttgcc tggatgccct cggccactac
660
aagcagtcaa aagacctggc cctggcggca gaggcgctgc gggtggcccg gggtcacctg
720
acccggctca caggtggagg gggtaccgag gagatcctgg acatcatctt ccaggacttc
780
tgtgtgggca agtgacggga tccagggaat tcgcacccaa gctgcgtgga gacccaggag
840
cctcggggga tctggaaaca gtttaggcca attg
874

<210> 4276
<211> 264
<212> PRT
<213> Homo sapiens

<400> 4276
Met Gln Val Ala Leu Gly Ala His Leu Arg Asp Ala Arg Arg Gly Gln
1   5   10   15
Arg Leu Arg Ser Gly Ala His Val Val Val Thr Gly Pro Pro Asn Ala
            20   25   30
Gly Lys Ser Ser Leu Val Asn Leu Leu Ser Arg Lys Pro Val Ser Ile
        35   40   45
Val Ser Pro Glu Pro Gly Thr Thr Arg Asp Val Leu Glu Thr Pro Val
        50   55   60
Asp Leu Ala Gly Phe Pro Val Leu Leu Ser Asp Thr Ala Gly Leu Arg

3480

```
65                    70                    75                    80
Glu Gly Val Gly Pro Val Glu Gln Glu Gly Val Arg Arg Ala Arg Glu
                    85                    90                    95
Arg Leu Glu Gln Ala Asp Leu Ile Leu Ala Met Leu Asp Ala Ser Asp
                100                    105                   110
Leu Ala Ser Pro Ser Ser Cys Asn Phe Leu Ala Thr Val Val Ala Ser
            115                    120                   125
Val Gly Ala Gln Ser Pro Ser Asp Ser Ser Gln Arg Leu Leu Leu Val
    130                    135                   140
Leu Asn Lys Ser Asp Leu Leu Ser Pro Glu Gly Pro Gly Pro Gly Pro
145                   150                    155                   160
Asp Leu Pro Pro His Leu Leu Leu Ser Cys Leu Thr Gly Glu Gly Leu
                165                    170                   175
Asp Gly Leu Leu Glu Ala Leu Arg Lys Glu Leu Ala Ala Val Cys Gly
                180                    185                   190
Asp Pro Ser Thr Asp Pro Pro Leu Leu Thr Arg Ala Arg His Gln His
            195                    200                   205
His Leu Gln Gly Cys Leu Asp Ala Leu Gly His Tyr Lys Gln Ser Lys
        210                    215                   220
Asp Leu Ala Leu Ala Ala Glu Ala Leu Arg Val Ala Arg Gly His Leu
225                    230                    235                   240
Thr Arg Leu Thr Gly Gly Gly Gly Thr Glu Glu Ile Leu Asp Ile Ile
                245                    250                   255
Phe Gln Asp Phe Cys Val Gly Lys
                260
```

```
<210> 4277
<211> 1070
<212> DNA
<213> Homo sapiens

<400> 4277
cggccggtcg ggcctccttt tgttttagga agggcacttc actccccggg cccccacctg
60
cccgcctgcg ccgccccttt ccgcgggtcc ggagttggcg gggccctgcg ccggaggagg
120
aggaccaggc ccgcgggctc agctctcgcc gccagcgggc cgcagcattt ttgaaacgtt
180
ggggttgttg gagtggttgg attttccctg gaattgagtg agaaattcag aagactgaag
240
cccaggctta ctgtctacct ttcacggagg cctagccgtg agaggacaga agaaggcacg
300
tggcgaatca tgacagcgga caaagacaaa gacaaagaca aagagaagga ccgggaccga
360
gaccgggacc gagagagaga gaaaagagac aaagcaagag agagtgagaa ttcaaggcca
420
cgccggagct gtaccttgga aggaggagcc aaaaattatg ctgagagtga tcacagtgaa
480
gacgaggaca atgacaacaa tagtgccacc gcagaggagt ccacgaagaa gaataagaag
540
aaaccaccga aaaaaaagtc tcgttatgaa aggacagata ccggtgagat aacatcctac
600
atcactgaag atgatgtggt ctacagacca ggagactgtg tgtatatcga gagtcggagg
660
```

```
ccaaacacac cgtatttcat ctgtagcatt caagacttca aactggtcca caactcccag
720
gcctgttgca gatctccaac tcctgctttg tgtgacccc cagcatgctc tctgccggtg
780
gcatcacagc caccacagca tctttctgaa gccgggagag ggcctgtagg gagtaagagg
840
gaccatctcc tcatgaacgt caaatggtac taccgtcaat ctgaggttcc agattctgtg
900
tatcagcatt tggttcagga tcgacataat gaaaatgact ctggaagaga acttgtcatt
960
acagacccag ttatcaagaa ccgagagctc ttcatttctg attacgttga cacttaccat
1020
gctgctgccc ttagagggaa gtgtaacatt ctccattttt ctgacatatt
1070
```

<210> 4278
<211> 253
<212> PRT
<213> Homo sapiens

<400> 4278

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Met Thr Ala Asp Lys Asp Lys Asp Lys Glu Lys Asp Arg Asp
 1               5              10             15
Arg Asp Arg Asp Arg Glu Arg Glu Lys Arg Asp Lys Ala Arg Glu Ser
            20             25             30
Glu Asn Ser Arg Pro Arg Arg Ser Cys Thr Leu Glu Gly Gly Ala Lys
            35             40             45
Asn Tyr Ala Glu Ser Asp His Ser Glu Asp Glu Asp Asn Asp Asn Asn
       50             55             60
Ser Ala Thr Ala Glu Glu Ser Thr Lys Lys Asn Lys Lys Lys Pro Pro
65             70             75             80
Lys Lys Lys Ser Arg Tyr Glu Arg Thr Asp Thr Gly Glu Ile Thr Ser
            85             90             95
Tyr Ile Thr Glu Asp Asp Val Val Tyr Arg Pro Gly Asp Cys Val Tyr
           100            105            110
Ile Glu Ser Arg Arg Pro Asn Thr Pro Tyr Phe Ile Cys Ser Ile Gln
           115            120            125
Asp Phe Lys Leu Val His Asn Ser Gln Ala Cys Cys Arg Ser Pro Thr
   130            135            140
Pro Ala Leu Cys Asp Pro Pro Ala Cys Ser Leu Pro Val Ala Ser Gln
145            150            155            160
Pro Pro Gln His Leu Ser Glu Ala Gly Arg Gly Pro Val Gly Ser Lys
            165            170            175
Arg Asp His Leu Leu Met Asn Val Lys Trp Tyr Tyr Arg Gln Ser Glu
            180            185            190
Val Pro Asp Ser Val Tyr Gln His Leu Val Gln Asp Arg His Asn Glu
            195            200            205
Asn Asp Ser Gly Arg Glu Leu Val Ile Thr Asp Pro Val Ile Lys Asn
       210            215            220
Arg Glu Leu Phe Ile Ser Asp Tyr Val Asp Thr Tyr His Ala Ala Ala
225            230            235            240
Leu Arg Gly Lys Cys Asn Ile Leu His Phe Ser Asp Ile
            245            250
```

3482

<210> 4279
<211> 1963
<212> DNA
<213> Homo sapiens

<400> 4279
cggccgctta cggaaaactc gctgttggaa gttctggatg gcacagtcat gatgtacagt
60
ctgagcgtac accagcagct gggcaagatg gtgggtgtgt ctgatgatgt caacgagtat
120
gcaatggccc tgagagacac cgaggacaag ctacgtcggt gccccaagag gaggaaggac
180
atccttgcag agttgaccaa gagccagaag gttttctcag aaaagctgga ccacctgagc
240
cgccgtcttg cctgggtcca tgccactgtc tactcccagg agaagatgct ggacatctac
300
tggctgctgc gcgtctgcct gcggaccatt gagcacggtg atcgcacagg gtctctcttt
360
gccttcatgc ccgagttcta cctgagcgtg gccatcaaca gctacagtgc tctcaagaat
420
tactttggtc ccgtgcacag catggaggag ctcccaggct atgaagagac cctgacccgc
480
ctggctgcca ttctcgccaa acactttgcc gacgcacgca ttgtgggcac tgacatccga
540
gactcactga tgcaggccct ggccagctac gtgtgctacc acactccct gcgggctgtg
600ccgaggagca gcgtatcgcc atggtgagga acctcctggc gccctatgag   660
cagcggcct gggcccagac caactggatc ctggtgcggc tctgagggggg ctgtggcttc
720
gggtaccgct atacacggct gccacatctg ctgaaaacca aacttgagga cgccaatttg
780
cccagcctcc agaagccctg cccttccacc ctgctgcagc agcacatggc ggacctccta
840
cagcagggtc ctgatgtggc acccagcttc ctcaacagcg tcctcaatca gctcaactgg
900
gccttctctg aattcattgg catgatccaa gagatccagc aggctgctga gcgcctggag
960
cggaactttg tggacagccg gcagctcaag gtatgtgcca cctgctttga cctctcggtc
1020
agcctgctgc gtgtcttgga gatgactatc acactggtgc ctgagatatt ccttgactgg
1080
acccggccta cctctgagat gctgctgcgg cgtcttgcac agctgctaaa ccaggtgctg
1140
aaccgggtga cagctgagag gaacctgttt gatcgtgtgg tcaccctacg gctgcctggc
1200
ctagagagcg tggaccacta tcccattctg gtggcagtga cgggcatcct ggtgcagctc
1260
ctggtgcgtg cccagcctc agagagagag caagccacat cagtgctcct ggcagatccc
1320
tgcttccagc tacgctcaat atgctatctc ctgggacagc cagagccccc agcacctggc
1380
actgctctgc cagcccctga ccggaagcgc ttctccctgc agagctatgc ggattatatc
1440
agtgccgatg agctggccca agtggaacag atgctggcgc acctgacctc tgcatctgcc
1500

caggcagcag ctgcctccct gcccaccagt gaggaggacc tctgccccat ctgctatgcc
1560
cacccccatct ctgctgtgtt ccagccctgt ggccacaagt cctgcaaagc ctgtatcaac
1620
cagcacctga tgaacaacaa ggactgcttc ttctgcaaaa ccaccatcgt gtctgtagag
1680
gactgggaga agggagccaa tacgagtact acctcctcag ctgcctagcc ctcacagcct
1740
gtgccatcct ggaacctcca cctttgaacc cagagccagg ctgggcccta tttatgagct
1800
ccctttgccc ttctcctgta tcccacacca ccacatccaa cctccttgcc tgcctgtatc
1860
ctcattggtg ggagcccagc catggcccta attgtgcctg agcttgactt tcagtcaggg
1920
ccacagtgag cattaaatta ttattccata caaaaaaaaa aaa
1963

<210> 4280
<211> 575
<212> PRT
<213> Homo sapiens

<400> 4280
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Arg Pro Leu Thr Glu Asn Ser Leu Leu Glu Val Leu Asp Gly Thr Val
 1               5                  10                  15
Met Met Tyr Ser Leu Ser Val His Gln Gln Leu Gly Lys Met Val Gly
            20                  25                  30
Val Ser Asp Asp Val Asn Glu Tyr Ala Met Ala Leu Arg Asp Thr Glu
            35                  40                  45
Asp Lys Leu Arg Arg Cys Pro Lys Arg Arg Lys Asp Ile Leu Ala Glu
        50                  55                  60
Leu Thr Lys Ser Gln Lys Val Phe Ser Glu Lys Leu Asp His Leu Ser
65                  70                  75                  80
Arg Arg Leu Ala Trp Val His Ala Thr Val Tyr Ser Gln Glu Lys Met
                85                  90                  95
Leu Asp Ile Tyr Trp Leu Leu Arg Val Cys Leu Arg Thr Ile Glu His
            100                 105                 110
Gly Asp Arg Thr Gly Ser Leu Phe Ala Phe Met Pro Glu Phe Tyr Leu
            115                 120                 125
Ser Val Ala Ile Asn Ser Tyr Ser Ala Leu Lys Asn Tyr Phe Gly Pro
        130                 135                 140
Val His Ser Met Glu Glu Leu Pro Gly Tyr Glu Glu Thr Leu Thr Arg
145                 150                 155                 160
Leu Ala Ala Ile Leu Ala Lys His Phe Ala Asp Ala Arg Ile Val Gly
                165                 170                 175
Thr Asp Ile Arg Asp Ser Leu Met Gln Ala Leu Ala Ser Tyr Val Cys
            180                 185                 190
Tyr Pro His Ser Leu Arg Ala Val Glu Arg Ile Pro Glu Glu Gln Arg
            195                 200                 205
Ile Ala Met Val Arg Asn Leu Leu Ala Pro Tyr Glu Gln Arg Pro Trp
        210                 215                 220
Ala Gln Thr Asn Trp Ile Leu Val Arg Leu Trp Arg Gly Cys Gly Phe
225                 230                 235                 240
Gly Tyr Arg Tyr Thr Arg Leu Pro His Leu Leu Lys Thr Lys Leu Glu
```

3484

```
                    245                    250                    255
Asp Ala Asn Leu Pro Ser Leu Gln Lys Pro Cys Pro Ser Thr Leu Leu
                260                    265                    270
Gln Gln His Met Ala Asp Leu Leu Gln Gln Gly Pro Asp Val Ala Pro
                275                    280                    285
Ser Phe Leu Asn Ser Val Leu Asn Gln Leu Asn Trp Ala Phe Ser Glu
            290                    295                    300
Phe Ile Gly Met Ile Gln Glu Ile Gln Gln Ala Ala Glu Arg Leu Glu
305                    310                    315                    320
Arg Asn Phe Val Asp Ser Arg Gln Leu Lys Val Cys Ala Thr Cys Phe
                325                    330                    335
Asp Leu Ser Val Ser Leu Leu Arg Val Leu Glu Met Thr Ile Thr Leu
                340                    345                    350
Val Pro Glu Ile Phe Leu Asp Trp Thr Arg Pro Thr Ser Glu Met Leu
            355                    360                    365
Leu Arg Arg Leu Ala Gln Leu Leu Asn Gln Val Leu Asn Arg Val Thr
        370                    375                    380
Ala Glu Arg Asn Leu Phe Asp Arg Val Val Thr Leu Arg Leu Pro Gly
385                    390                    395                    400
Leu Glu Ser Val Asp His Tyr Pro Ile Leu Val Ala Val Thr Gly Ile
                405                    410                    415
Leu Val Gln Leu Leu Val Arg Gly Pro Ala Ser Glu Arg Glu Gln Ala
                420                    425                    430
Thr Ser Val Leu Leu Ala Asp Pro Cys Phe Gln Leu Arg Ser Ile Cys
                435                    440                    445
Tyr Leu Leu Gly Gln Pro Glu Pro Pro Ala Pro Gly Thr Ala Leu Pro
            450                    455                    460
Ala Pro Asp Arg Lys Arg Phe Ser Leu Gln Ser Tyr Ala Asp Tyr Ile
465                    470                    475                    480
Ser Ala Asp Glu Leu Ala Gln Val Glu Gln Met Leu Ala His Leu Thr
                485                    490                    495
Ser Ala Ser Ala Gln Ala Ala Ala Ala Ser Leu Pro Thr Ser Glu Glu
            500                    505                    510
Asp Leu Cys Pro Ile Cys Tyr Ala His Pro Ile Ser Ala Val Phe Gln
        515                    520                    525
Pro Cys Gly His Lys Ser Cys Lys Ala Cys Ile Asn Gln His Leu Met
    530                    535                    540
Asn Asn Lys Asp Cys Phe Phe Cys Lys Thr Thr Ile Val Ser Val Glu
545                    550                    555                    560
Asp Trp Glu Lys Gly Ala Asn Thr Ser Thr Thr Ser Ser Ala Ala
            565                    570                    575
```

<210> 4281
<211> 507
<212> DNA
<213> Homo sapiens

<400> 4281
acgcgtgaag ggacagagct ggggccttgt caggagcccc acagttggcc aatgggccag
60
atgccccata gtctcagccc acctctcttc tgccatgagt ccctgattc tgtcctttga
120
gctgactctg agaggcagtg ggcttcccgc cagcacctcc ccctatcaca tttgtagggc
180

tggtttatga ggccggaagt aagcaagcac cccctcatat caacctggca cttcacaccc
240
cccatggtta tcagtggggg tgctggctgg ctggcaggca gccagagaca tttcagcagg
300
tcaggcatgg atgcaggtgg aaatgagaga ggatcagtga gcgcattcat gtcttttgag
360
tggtctacag atgagtggtc tccagtctca aatgaggaga caaatagggg aagtaggagc
420
tcagggttct tgtgtgtctc ataggcagct gcctatccct gggtgataca gctccctggc
480
acacccattc ccaagggcac aggatcc
507

<210> 4282
<211> 106
<212> PRT
<213> Homo sapiens

<400> 4282
Met Asn Ala Leu Thr Asp Pro Leu Ser Phe Pro Pro Ala Ser Met Pro
 1   5   10   15
Asp Leu Leu Lys Cys Leu Trp Leu Pro Ala Ser Gln Pro Ala Pro Pro
            20   25   30
Leu Ile Thr Met Gly Gly Val Lys Cys Gln Val Asp Met Arg Gly Cys
            35   40   45
Leu Leu Thr Ser Gly Leu Ile Asn Gln Pro Tyr Lys Cys Asp Arg Gly
        50   55   60
Arg Cys Trp Arg Glu Ala His Cys Leu Ser Glu Ser Ala Gln Arg Thr
65   70   75   80
Glu Ser Gly Asp Ser Trp Gln Lys Arg Gly Gly Leu Arg Leu Trp Gly
                85   90   95
Ile Trp Pro Ile Gly Gln Leu Trp Gly Ser
                100   105

<210> 4283
<211> 315
<212> DNA
<213> Homo sapiens

<400> 4283
gaattctcaa ccagaacagc ccagcaggaa aggagccggc atggggtgcc cctctgcagc
60
cgaccgtttt cctagaaggc ctaaccgctc aaacgggcag gggaggggggg cgggcggccc
120
gggagaaacc gagtccccgc cgggtcccca ccgtgtggcg ccgaccgaaa taactccagt
180
ccagctgcaa aaaccctccc gaaaacccaa gcttgtccgg cacaacttcg gtctctccag
240
cctcattcct gcccgcactc cgccaaactg ctcgccctgc ccagcgcagc ggatgcagcg
300
ctcccggccc nacgg
315

<210> 4284

<211> 91
<212> PRT
<213> Homo sapiens

<400> 4284
Met Gly Cys Pro Ser Ala Ala Asp Arg Phe Pro Arg Arg Pro Asn Arg
1   5   10   15
Ser Asn Gly Gln Gly Arg Gly Ala Gly Gly Pro Gly Glu Thr Glu Ser
            20   25   30
Pro Pro Gly Pro His Arg Val Ala Pro Thr Glu Ile Thr Pro Val Gln
        35   40   45
Leu Gln Lys Pro Ser Arg Lys Pro Lys Leu Val Arg His Asn Phe Gly
    50   55   60
Leu Ser Ser Leu Ile Pro Ala Arg Thr Pro Pro Asn Cys Ser Pro Cys
65   70   75   80
Pro Ala Gln Arg Met Gln Arg Ser Arg Pro Xaa
                85   90

<210> 4285
<211> 591
<212> DNA
<213> Homo sapiens

<400> 4285
nagatctcag agaacttggt gaacattcag aaaatgcaga aaacgcaggt gaaatgccgc
60
aaaatcctga ccaagatgaa gcagcagggt catgagacag ccgcctgtcc ggagactgaa
120
gagataccgc agggagccag tggctgctgg aaggatgacc tccagaagga actgagtgat
180
atatggtgat gcccagcctg cagtctgacc cctgaccctc tctgaaccc gttcccccaa
240
cgggatctgg cagtgaccac cagaacctgg agcccacctg agtccagact tccctcaccc
300
cctaggactc accccaccac ggcccccaac cttagctgta ctgctgtcta caccctgagc
360
agtgtggagt ctcccagcgc ccccagctcc ttgtcttctt gcaggtctgc tgtgcacgtg
420
ctgcaggact ccatagacag cctcactttg tgctcggggg cctgtcccaa ggcctcgagc
480
ctaagaggcc acaagggcac cagtgcctga gccctccact cccctcctgg gactctgact
540
ccgactgtga ccaggacctc tcccagccac ctttcagcaa gagcggccgc a
591

<210> 4286
<211> 106
<212> PRT
<213> Homo sapiens

<400> 4286
Cys Pro Ala Cys Ser Leu Thr Pro Asp Pro Pro Leu Asn Pro Phe Pro
1   5   10   15
Gln Arg Asp Leu Ala Val Thr Thr Arg Thr Trp Ser Pro Pro Glu Ser

```
            20                    25                    30
Arg Leu Pro Ser Pro Pro Arg Thr His Pro Thr Thr Ala Pro Asn Leu
        35                    40                45
Ser Cys Thr Ala Val Tyr Thr Leu Ser Ser Val Glu Ser Pro Ser Ala
    50                    55                60
Pro Ser Ser Leu Ser Ser Cys Arg Ser Ala Val His Val Leu Gln Asp
65                    70                75                    80
Ser Ile Asp Ser Leu Thr Leu Cys Ser Gly Ala Cys Pro Lys Ala Ser
                  85                90                    95
Ser Leu Arg Gly His Lys Gly Thr Ser Ala
            100                   105
```

<210> 4287
<211> 868
<212> DNA
<213> Homo sapiens

<400> 4287
cgagggcgcg actgcggggt tcctggtgct gaggacggac gccattggag ttccccgagaa
60
ggctgagctc tcatctccct gggacccgca gcatggctga gggaagcttc agcgtgcaat
120
cggaaagcta cagtgttgaa gacatggatg agggtagcga cgaagtcggg gaggaagaga
180
tggttgaagg caacgactat gaagaattcg gtgcgtttgg tggctatggc accctcacca
240
gctttgacat ccatatcctc agagccttcg gaagcttggg tccaggcctt cgcatcttat
300
cgaatgagcc ctgggaactg gaaaaccnct gtgctggccc agaccctggt ggaggcattg
360
cagctggatc cggaaacact tgccaatgag acggccgccc gtgctgccaa cgtagcccgc
420
gccgccgcct ccaaccgtgc ggctcgggcc gctgccgccg ctgcccgtac cgccttcagt
480
caggtggtcg ctagccaccg ggtggccacg ccgcaggtct caggagagga tacccagccc
540
acgacctacg ccgccgaggc tcaggggccc acccctgagc cacccccttgc ttctccgcag
600
acctcccaga tgttagtcac cagtaagatg ctgcccccg aggctccggc aacctccgca
660
cagtcccaga caggctcccc ggcccaggag gctgctactg agggccctag tagcgcctgt
720
gcattctctc aggctccgtg tgccagggag gtggacgcca accggcccag cacagccttc
780
ctgggccaga atgatgtctt cgatttcact cagccggcag tgtcagtggc atggcttccc
840
gcgcccaaga gacctgccca gccaagag
868

<210> 4288
<211> 240
<212> PRT
<213> Homo sapiens
```

<400> 4288
Met Arg Val Ala Thr Lys Ser Gly Arg Lys Arg Trp Leu Lys Ala Thr
1               5                   10                  15
Thr Met Lys Asn Ser Val Arg Leu Val Ala Met Ala Pro Ser Pro Ala
            20                  25                  30
Leu Thr Ser Ile Ser Ser Glu Pro Ser Glu Ala Trp Val Gln Ala Phe
        35                  40                  45
Ala Ser Tyr Arg Met Ser Pro Gly Asn Trp Lys Thr Xaa Val Leu Ala
    50                  55                  60
Gln Thr Leu Val Glu Ala Leu Gln Leu Asp Pro Glu Thr Leu Ala Asn
65                  70                  75                  80
Glu Thr Ala Ala Arg Ala Ala Asn Val Ala Arg Ala Ala Ala Ser Asn
                85                  90                  95
Arg Ala Ala Arg Ala Ala Ala Ala Ala Ala Arg Thr Ala Phe Ser Gln
            100                 105                 110
Val Val Ala Ser His Arg Val Ala Thr Pro Gln Val Ser Gly Glu Asp
        115                 120                 125
Thr Gln Pro Thr Thr Tyr Ala Ala Glu Ala Gln Gly Pro Thr Pro Glu
    130                 135                 140
Pro Pro Leu Ala Ser Pro Gln Thr Ser Gln Met Leu Val Thr Ser Lys
145                 150                 155                 160
Met Ala Ala Pro Glu Ala Pro Ala Thr Ser Ala Gln Ser Gln Thr Gly
                165                 170                 175
Ser Pro Ala Gln Glu Ala Ala Thr Glu Gly Pro Ser Ser Ala Cys Ala
            180                 185                 190
Phe Ser Gln Ala Pro Cys Ala Arg Glu Val Asp Ala Asn Arg Pro Ser
        195                 200                 205
Thr Ala Phe Leu Gly Gln Asn Asp Val Phe Asp Phe Thr Gln Pro Ala
    210                 215                 220
Val Ser Val Ala Trp Leu Pro Ala Pro Lys Arg Pro Ala Gln Pro Arg
225                 230                 235                 240

<210> 4289
<211> 353
<212> DNA
<213> Homo sapiens

<400> 4289
ggatccctgg gaagatgact accctgcctg tgcgggatat gagggagaaa tatgggagcc
60
tcctcacttc aggtgtcact gctcagcata tatccaggct ttgttttcat attggtcttg
120
caaagagcct tttgggaaca gttttcttat tgaaacatac tcagtgttta aacctgcagg
180
tgtgggttgg tggcagtcca catggcatcc tttgctctgt ccctgttctc ctgtctctgg
240
ctattcaggt ccccgtgagg atactgtcac ccttgaataa tggagcttgc ggaagaccaa
300
gcccctgttt ttggagtcct tgtgctgagg ccgctgtaac ttgcggagag ttg
353

<210> 4290
<211> 113
<212> PRT

<213> Homo sapiens

<400> 4290
```
Met Thr Thr Leu Pro Val Arg Asp Met Arg Glu Lys Tyr Gly Ser Leu
1   5   10   15
Leu Thr Ser Gly Val Thr Ala Gln His Ile Ser Arg Leu Cys Phe His
            20   25   30
Ile Gly Leu Ala Lys Ser Leu Leu Gly Thr Val Phe Leu Leu Lys His
            35   40   45
Thr Gln Cys Leu Asn Leu Gln Val Trp Val Gly Gly Ser Pro His Gly
        50   55   60
Ile Leu Cys Ser Val Pro Val Leu Leu Ser Leu Ala Ile Gln Val Pro
65   70   75   80
Val Arg Ile Leu Ser Pro Leu Asn Asn Gly Ala Cys Gly Arg Pro Ser
                85   90   95
Pro Cys Phe Trp Ser Pro Cys Ala Glu Ala Ala Val Thr Cys Gly Glu
                100   105   110
Leu
```

<210> 4291
<211> 517
<212> DNA
<213> Homo sapiens

<400> 4291
```
nnaaatttgc caagccaaga gttaccccag gaagattctc tcttacatgg ccaattttca
60
caagcagtca ctcccctagc ccatcatcac acagattatt caaagcccac cgatatctca
120
tggagagaca cactttctca gaagtttgga tcctcagatc acttggagaa actatttaag
180
atggatgaag caagtgccca gctccttgct tataaggaaa aaggccattc tcagagttca
240
caattttcct ctgatcaaga aatagctcat ctgctgcctg aaaatgtgag tgcgctccca
300
gctacggtgg cagttgcttc tccacatacc acctcggcta ctccaaagcc cgccaccctt
360
ctacccacca atgcttcagt gacaccttct gggacttccc agccacagct ggccaccaca
420
gctccacctg taaccactgt cacttctcag cctcccacga ccctcatttc tacagttttt
480
acacgggctg tggctacact ccaagcaatg gctacaa
517
```

<210> 4292
<211> 172
<212> PRT
<213> Homo sapiens

<400> 4292
```
Xaa Asn Leu Pro Ser Gln Glu Leu Pro Gln Glu Asp Ser Leu Leu His
1   5   10   15
Gly Gln Phe Ser Gln Ala Val Thr Pro Leu Ala His His His Thr Asp
```

```
                   20                      25                      30
Tyr Ser Lys Pro Thr Asp Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys
            35                      40                      45
Phe Gly Ser Ser Asp His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala
        50                      55                      60
Ser Ala Gln Leu Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser
65                      70                      75                      80
Gln Phe Ser Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val
                85                      90                      95
Ser Ala Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser
            100                     105                     110
Ala Thr Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr
            115                     120                     125
Pro Ser Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro Val
            130                     135                     140
Thr Thr Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr Val Phe
145                     150                     155                     160
Thr Arg Ala Val Ala Thr Leu Gln Ala Met Ala Thr
                165                     170
```

<210> 4293
<211> 547
<212> DNA
<213> Homo sapiens

<400> 4293
gccggcgccc ccggcgcgga tgcctgctct gtgcctgtat ctgagatcat cgccgttgag
60
gaaacagacg ttcacgggaa acatcaaggc agtggaaaat ggcagaaaat ggaaaagcct
120
tacgctttta cagttcactg tgtaaagaga gcacgacggc accgctggaa gtgggcgcag
180
gtgactttct ggtgtccaga ggagcagctg tgtcacttgt ggctgcagac cctgcgggag
240
atgctggaga agctgacgtc cagaccaaag catttactgg tatttatcaa cccgtttgga
300
ggaaaaggac aaggcaagcg gatatatgaa agaaaagtgg caccactgtt caccttagcc
360
tccatcacca ctgacatcat cgttactgaa catgctaatc aggccaagga gactctgtat
420
gagattaaca tagacaaata cgacggcatc gtctgtgtcg cggagatgg tatgttcagc
480
gaggtgctgc acggtctgat tgggaggacg cagaggagcg ccggggtcga ccagaaccac
540
ccccggg
547

<210> 4294
<211> 182
<212> PRT
<213> Homo sapiens

<400> 4294
Ala Gly Ala Pro Gly Ala Asp Ala Cys Ser Val Pro Val Ser Glu Ile

```
 1                     5                        10                       15
Ile Ala Val Glu Glu Thr Asp Val His Gly Lys His Gln Gly Ser Gly
                20                      25                       30
Lys Trp Gln Lys Met Glu Lys Pro Tyr Ala Phe Thr Val His Cys Val
            35                      40                       45
Lys Arg Ala Arg Arg His Arg Trp Lys Trp Ala Gln Val Thr Phe Trp
        50                      55                       60
Cys Pro Glu Glu Gln Leu Cys His Leu Trp Leu Gln Thr Leu Arg Glu
65                          70                      75                       80
Met Leu Glu Lys Leu Thr Ser Arg Pro Lys His Leu Leu Val Phe Ile
                85                      90                       95
Asn Pro Phe Gly Gly Lys Gly Gln Gly Lys Arg Ile Tyr Glu Arg Lys
                100                     105                      110
Val Ala Pro Leu Phe Thr Leu Ala Ser Ile Thr Thr Asp Ile Ile Val
            115                     120                     125
Thr Glu His Ala Asn Gln Ala Lys Glu Thr Leu Tyr Glu Ile Asn Ile
        130                     135                     140
Asp Lys Tyr Asp Gly Ile Val Cys Val Gly Gly Asp Gly Met Phe Ser
145                         150                     155                      160
Glu Val Leu His Gly Leu Ile Gly Arg Thr Gln Arg Ser Ala Gly Val
                165                     170                     175
Asp Gln Asn His Pro Arg
                180
```

```
<210> 4295
<211> 431
<212> DNA
<213> Homo sapiens
```

```
<400> 4295
nntctagaaa atcactgtct ccttctaccc tgccatctct acaccagggt tacaaacaag
60
agcccactgc tggctccttg ttttgtaaat aagatttgtt ggactacagc tatgcccgta
120
catgtacatt ttgtgtatgg ctgcttttgt gccacaacag cagggttgag tattgcgaca
180
gagacccca ttgcccacaa gcctaaaaca tttgccatcg agcccttaa gaaagagttt
240
gctggccgtg cgcggtggcc gtggctcccg cctgtaatcc cagcactttg gaaggctgag
300
gcaggcggtg aggtctggag ttcgaaacca gcctggccag cgtggcgaaa ccctgtctcc
360
ccctcccaga ttcacgtgat tatcccacct cagcctcctg agtacctggg actataggcg
420
cgtgccaacc a
431
```

```
<210> 4296
<211> 138
<212> PRT
<213> Homo sapiens
```

```
<400> 4296
Xaa Leu Glu Asn His Cys Leu Leu Leu Pro Cys His Leu Tyr Thr Arg
```

```
  1                     5                        10                    15
Val Thr Asn Lys Ser Pro Leu Leu Ala Pro Cys Phe Val Asn Lys Ile
                    20                        25                    30
Cys Trp Thr Thr Ala Met Pro Val His Val His Phe Val Tyr Gly Cys
                35                        40                    45
Phe Cys Ala Thr Thr Ala Gly Leu Ser Ile Ala Thr Glu Thr Pro Ile
            50                        55                    60
Ala His Lys Pro Lys Thr Phe Ala Ile Glu Pro Phe Lys Lys Glu Phe
65                        70                    75                    80
Ala Gly Arg Ala Arg Trp Pro Trp Leu Pro Pro Val Ile Pro Ala Leu
                    85                        90                    95
Trp Lys Ala Glu Ala Gly Gly Glu Val Trp Ser Ser Lys Pro Ala Trp
                100                       105                   110
Pro Ala Trp Arg Asn Pro Val Ser Pro Ser Gln Ile His Val Ile Ile
            115                       120                   125
Pro Pro Gln Pro Pro Glu Tyr Leu Gly Leu
            130                       135
```

<210> 4297
<211> 1668
<212> DNA
<213> Homo sapiens

<400> 4297
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nccatggact cggcctttgt gggtataaag gtcaaccaag tgtcagctgc agttggaaaa
60
gatttcaccg tgattccatc taaactgatt cagtttgacc caggaatgtc aactaagatg
120
tggaatatag caattaccta tgacggatta gaggaagatg atgaggtctt tgaagtaatt
180
ctgaactccc ctgtgaatgc agttcttggc acaaagacaa aagctgcagt gaaaattttg
240
gactcaaaag gaggacaatg ccatccttca tattcctcca accaaagcaa gcacagcaca
300
tgggagaagg gcatttggca tctgctgccc ccagggtctt cctcatccac cacttctggt
360
tcctttcatc tggaaagaag acctcttcca tcttccatgc agctagcagt catcagggga
420
gacaccctgc ggggctttga ttctacagat ctttctcaaa ggaagcttag gacccgtggg
480
aatggcaaaa cagttcgtcc atcctctgtt tatagaaatg gaacagacat catctataat
540
tatcatggga tagtttcctt gaaactggag gatgacagtt tcccaactca caaaaggaag
600
gccaaagtat ccatcattag tcagccacaa aagacaatca agtggcaga actgcctcaa
660
gcagataagg tggaatccac aactgactca cacttcccca gacaggacca gttgccctca
720
tttccaaaga actgcactct ggaattaaag ggactcttcc attttgaaga aggcatccag
780
aagctgtatc agtgcaatgg gatcgcctgg aaagcctgga gtccccaaac caaggatgtg
840
gaagacaaat cctgtccagc cgggtggcac cagcactcag gctactgtca catcttgatc
900
```

3493

```
acagagcaga aaggcacctg gaatgcggct gcccaagctt gcagggaaca atacctgggc
960
aaccttgtaa ctgtattctc caggcagcac atgcggtggc tctgggacat tggtgggaga
1020
aagtcctttt ggataggttt gaacgaccaa gtgcatgctg ccactgggga gtggatcggt
1080
ggtgaacctg ttgccttcac caatgggaga agagggccct ctccacgctc caagcttgga
1140
aagagctgtg ttttggttca aagacaaggg aaatggcaaa caaaagactg taggagagcc
1200
aaacctcata attatgtgtg ttccagaaaa ctctaaatat aacagaccct acaggggggcc
1260
acctggagtt tgtcacctat ttattcacag gatctgtgaa tattgctcca tagaaaacaa
1320
attgttatga ttgagtgggt atacctttgt gattctgtct agtgaaaatg ggacattttt
1380
aatagtgcca gaaagattga taaataaata ttttttacaa gataagatac aatttttgta
1440
tctcaatacc ttttaaaata aatgccagca gtattaaaaa gtgtaaggtt tgtttattcc
1500
agaagaccct cacccttacc ccattccaaa tctcagggag caccagtctc atagtccttg
1560
gatttttttt aaaaaaaatt tttggtcccg ttacctctaa tgaatttatt ctgaaatatg
1620
tatcgtaggt gctcctacca ctttagtctg agtggaaagc caaaaaac
1668
```

<210> 4298
<211> 411
<212> PRT
<213> Homo sapiens

<400> 4298

```
Xaa Met Asp Ser Ala Phe Val Gly Ile Lys Val Asn Gln Val Ser Ala
1               5                   10                  15
Ala Val Gly Lys Asp Phe Thr Val Ile Pro Ser Lys Leu Ile Gln Phe
            20                  25                  30
Asp Pro Gly Met Ser Thr Lys Met Trp Asn Ile Ala Ile Thr Tyr Asp
        35                  40                  45
Gly Leu Glu Glu Asp Asp Glu Val Phe Glu Val Ile Leu Asn Ser Pro
    50                  55                  60
Val Asn Ala Val Leu Gly Thr Lys Thr Lys Ala Ala Val Lys Ile Leu
65                  70                  75                  80
Asp Ser Lys Gly Gly Gln Cys His Pro Ser Tyr Ser Ser Asn Gln Ser
                85                  90                  95
Lys His Ser Thr Trp Glu Lys Gly Ile Trp His Leu Leu Pro Pro Gly
            100                 105                 110
Ser Ser Ser Ser Thr Thr Ser Gly Ser Phe His Leu Glu Arg Arg Pro
        115                 120                 125
Leu Pro Ser Ser Met Gln Leu Ala Val Ile Arg Gly Asp Thr Leu Arg
        130                 135                 140
Gly Phe Asp Ser Thr Asp Leu Ser Gln Arg Lys Leu Arg Thr Arg Gly
145                 150                 155                 160
Asn Gly Lys Thr Val Arg Pro Ser Ser Val Tyr Arg Asn Gly Thr Asp
```

3494

```
                 165                    170                    175
Ile Ile Tyr Asn Tyr His Gly Ile Val Ser Leu Lys Leu Glu Asp Asp
        180                    185                    190
Ser Phe Pro Thr His Lys Arg Lys Ala Lys Val Ser Ile Ile Ser Gln
        195                    200                    205
Pro Gln Lys Thr Ile Lys Val Ala Glu Leu Pro Gln Ala Asp Lys Val
    210                    215                    220
Glu Ser Thr Thr Asp Ser His Phe Pro Arg Gln Asp Gln Leu Pro Ser
225                    230                    235                    240
Phe Pro Lys Asn Cys Thr Leu Glu Leu Lys Gly Leu Phe His Phe Glu
                245                    250                    255
Glu Gly Ile Gln Lys Leu Tyr Gln Cys Asn Gly Ile Ala Trp Lys Ala
                260                    265                    270
Trp Ser Pro Gln Thr Lys Asp Val Glu Asp Lys Ser Cys Pro Ala Gly
        275                    280                    285
Trp His Gln His Ser Gly Tyr Cys His Ile Leu Ile Thr Glu Gln Lys
    290                    295                    300
Gly Thr Trp Asn Ala Ala Ala Gln Ala Cys Arg Glu Gln Tyr Leu Gly
305                    310                    315                    320
Asn Leu Val Thr Val Phe Ser Arg Gln His Met Arg Trp Leu Trp Asp
                325                    330                    335
Ile Gly Gly Arg Lys Ser Phe Trp Ile Gly Leu Asn Asp Gln Val His
            340                    345                    350
Ala Gly His Trp Glu Trp Ile Gly Gly Glu Pro Val Ala Phe Thr Asn
            355                    360                    365
Gly Arg Arg Gly Pro Ser Pro Arg Ser Lys Leu Gly Lys Ser Cys Val
    370                    375                    380
Leu Val Gln Arg Gln Gly Lys Trp Gln Thr Lys Asp Cys Arg Arg Ala
385                    390                    395                    400
Lys Pro His Asn Tyr Val Cys Ser Arg Lys Leu
                405                    410
```

<210> 4299
<211> 988
<212> DNA
<213> Homo sapiens

<400> 4299
```
nngcgaccgc tcttgctgaa aggtggctgg gagaggtcct ggtcagagtc ggagtcagag
60
tcccaggagg ggagtggagg gctcaggcac tggtgccctt gtggcctctt aggctcgagg
120
ccttgggaca ggccccccgag cacaaagtga ggctgtctat ggagttctgc agcacgtgca
180
cagcagacca tatatcactc agttccttct ggaggtcatc cttccagcag ccactggctc
240
cctgcggtat ctcttcagtc tccggacagg cggctgtctc atgaccctgc tgcttcatct
300
tggtcaggat tttgcggcat ttcacctgcg ttttctgcat tttctgaatg ttcaccaagt
360
tctctgagat ctcatcctcc tgcgcttgga gcttctgata gatgaaggtc acctcctccc
420
gcaccagttc cagctcctcc cacaggaact tcttgctgtc ccggatctcc tgggccagca
480
```

gctgcaggca gcgagtggtg cgggcccgct gcatctcctc actgtcacgc agggtcttct
540
ccagcccctg aaggccttgg gtcagggccc catacagctc ctgccggccc tgctccatgc
600
cccacttgtg ctcctccttc tctccatggc ggcctgtggg gctcagcacc tcttcaagct
660
gctgaatctt gatttgctgc aagcagctct ccttctccaa catggtcact gagtggttca
720
ggaactcgaa agccttggtc tgggcctgta actggctctt gagtgactca agttcacatc
780
gcaggagctt ctgggagtcg ggaatcatca caatggtctt ggctttgact ttggaagagc
840
tggtctccaa gggcttcaca taccacctgt tcatgctctn cccatcaggg accacgaagc
900
cagtcctcag ctgtgacgct gaagtttgat cccgcgggga caccatcgta ttaaaacgct
960
cagagactga gtcacagaga ggggtgtc
988

<210> 4300
<211> 84
<212> PRT
<213> Homo sapiens

<400> 4300
Gly Cys Leu Trp Ser Ser Ala Ala Arg Ala Gln Gln Thr Ile Tyr His
1   5   10   15
Ser Val Pro Ser Gly Gly His Pro Ser Ser Ser His Trp Leu Pro Ala
            20   25   30
Val Ser Leu Gln Ser Pro Asp Arg Arg Leu Ser His Asp Pro Ala Ala
        35   40   45
Ser Ser Trp Ser Gly Phe Cys Gly Ile Ser Pro Ala Phe Ser Ala Phe
    50   55   60
Ser Glu Cys Ser Pro Ser Ser Leu Arg Ser His Pro Pro Ala Leu Gly
65   70   75   80
Ala Ser Asp Arg

<210> 4301
<211> 2429
<212> DNA
<213> Homo sapiens

<400> 4301
nnaggcaccg cggcgctcgg gtgtttttgg gggcccgggt ggagggcccg ggtgccgggg
60
cccaaggtgc ggcctcgcta gcgggagagg gagcgggatc accggcccgg agagagctct
120
cagggccaga gcggggcagg aggatgcttt cccagcccca ccatggagct gcgctgtggg
180
ggattgctgt tcagttctcg ctttgattca gggaatctag cccacgtgga gaaggtggaa
240
tctttgtcca gtgatgggga aggggtagga ggtggggcgt cagccctgac cagtggcatt
300

gcctcttccc ctgactatga attcaacgtg tggacccgac cagactgtgc tgaaacggaa
360
tttgagaatg ggaacaggtc atggttctac ttcagcgtcc ggggaggaat gccaggaaaa
420
ctcatcaaga tcaacattat gaacatgaac aagcagagca agctgtattc ccagggcatg
480
gccccctttg tgcgcacact gcccacccgg ccacgctggg aacgcattcg agaccggccc
540
acctttgaga tgacagagac gcagtttgtg ttatcctttg ttcatcgttt cgtggagggc
600
cgtggggcca ccaccttctt cgccttctgc taccccttct cctacagtga ctgccaggaa
660
ctgctaaacc agctagacca gcgctttccg gagaaccacc ctacccatag cagcccctg
720
gataccatct attaccatcg ggagctcctt tgctattctc tggatggact tcgtgtagat
780
ctgctgacga tcacttcctg ccatgggctt cgagaagatc gagagccccg tctagagcag
840
ctattccctg ataccagcac ccctcgacca ttccgtttcg caggcaagag gatattcttc
900
ttaagcagta gagtacaccc aggggagact ccatctagct ttgtcttcaa tggctttctg
960
gacttcatcc tccgacctga tgatccccgg gcccaaaccc tccgtcgcct cttcgtcttt
1020
aagctgattc ccatgttgaa ccccgatggt gtggtccggg gacactaccg cacagactca
1080
cgtggagtga atctgaaccg tcagtacctg aagcctgatg ccgtcctgca cccggccatc
1140
tatggggcca aagctgtgct tctctaccac catgtgcact ctcgtctgaa ctcccagagt
1200
tcctctgagc accagcccag ttcctgtctc cctcctgatg ctcctgtttc tgacctggag
1260
aaagccaaca atctccaaaa tgaagctcag tgtgggcact cagctgacag gcataacgct
1320
gaagcctgga aacaaacaga gccagcagaa cagaagctca acagtgtgtg gattatgcca
1380
caacagtctg cggggcttga agagtcagcc cctgatacca tcccccccaa agagagtggc
1440
gttgcttact atgtggacct gcatggacat gcttccaaaa ggggctgctt catgtacgga
1500
aacagcttta gtgatgagag cacccaggtg gaaaacatgc tatatccaaa gctcatctcc
1560
ttgaattcag cccacttcga cttccagggc tgcaatttct cagagaagaa tatgtatgcc
1620
cgagaccgta gagatggcca gtctaaagag ggaagcggcc gtgttgcaat ctacaaagcc
1680
tcagggataa tccacagcta cacacttgaa tgcaactaca acactggacg ctcagtaaac
1740
agcatccctg ctgcctgcca tgacaatggg cgtgccagcc cccctccccc gccggctttc
1800
ccctccagat acactgtgga actatttgag caggtgggac gagctatggc cattgcagcc
1860
ctggacatgg cggaatgtaa tccgtggccc cgaattgtac tgtcagagca cagcagcctt
1920

3497

```
actaatctac gggcctggat gctgaaacat gtacgcaaca gccgaggcct aagcagcact
1980
ctgaatgtgg gtgtcaacaa gaagaggggc cttcgaactc cacccaaaag tcacaatggg
2040
ttgcctgtct cctgctccga aaacaccttg agtcgggcac gaagttttag caccggcaca
2100
agtgccggtg gtagcagcag cagccaacaa aattctccac agatgaagaa ttcccccagc
2160
tttccttttc atggcagtcg gcctgcaggg ctgccaggcc tgggctctag tacccaaaag
2220
gtcacccacc gggtgctggg ccccgtcaga ggtaagccag tctgggagcc cctgcaacat
2280
gtgttcggtt gtctggggca ttgctggggg aagtaagagc ttgaagatat actgttggcc
2340
caggaccaag gggtgaatca ataaaattag tttgtagcag aaaaaaaaaa aaaaaaaaaa
2400
aaaaaaaaaa aaaaaaaaaa aaaaaaaaa
2429
```

```
<210> 4302
<211> 717
<212> PRT
<213> Homo sapiens
```

```
<400> 4302
Met Glu Leu Arg Cys Gly Gly Leu Leu Phe Ser Ser Arg Phe Asp Ser
 1               5                  10                  15
Gly Asn Leu Ala His Val Glu Lys Val Glu Ser Leu Ser Ser Asp Gly
            20                  25                  30
Glu Gly Val Gly Gly Gly Ala Ser Ala Leu Thr Ser Gly Ile Ala Ser
            35                  40                  45
Ser Pro Asp Tyr Glu Phe Asn Val Trp Thr Arg Pro Asp Cys Ala Glu
        50                  55                  60
Thr Glu Phe Glu Asn Gly Asn Arg Ser Trp Phe Tyr Phe Ser Val Arg
65                  70                  75                  80
Gly Gly Met Pro Gly Lys Leu Ile Lys Ile Asn Ile Met Asn Met Asn
                85                  90                  95
Lys Gln Ser Lys Leu Tyr Ser Gln Gly Met Ala Pro Phe Val Arg Thr
            100                 105                 110
Leu Pro Thr Arg Pro Arg Trp Glu Arg Ile Arg Asp Arg Pro Thr Phe
            115                 120                 125
Glu Met Thr Glu Thr Gln Phe Val Leu Ser Phe Val His Arg Phe Val
            130                 135                 140
Glu Gly Arg Gly Ala Thr Thr Phe Phe Ala Phe Cys Tyr Pro Phe Ser
145                 150                 155                 160
Tyr Ser Asp Cys Gln Glu Leu Leu Asn Gln Leu Asp Gln Arg Phe Pro
                165                 170                 175
Glu Asn His Pro Thr His Ser Ser Pro Leu Asp Thr Ile Tyr Tyr His
            180                 185                 190
Arg Glu Leu Leu Cys Tyr Ser Leu Asp Gly Leu Arg Val Asp Leu Leu
            195                 200                 205
Thr Ile Thr Ser Cys His Gly Leu Arg Glu Asp Arg Glu Pro Arg Leu
            210                 215                 220
Glu Gln Leu Phe Pro Asp Thr Ser Thr Pro Arg Pro Phe Arg Phe Ala
```

3498

```
225                    230                    235                         240
Gly Lys Arg Ile Phe Phe Leu Ser Ser Arg Val His Pro Gly Glu Thr
                245                    250                         255
Pro Ser Ser Phe Val Phe Asn Gly Phe Leu Asp Phe Ile Leu Arg Pro
                260                    265                    270
Asp Asp Pro Arg Ala Gln Thr Leu Arg Arg Leu Phe Val Phe Lys Leu
            275                    280                    285
Ile Pro Met Leu Asn Pro Asp Gly Val Val Arg Gly His Tyr Arg Thr
        290                    295                    300
Asp Ser Arg Gly Val Asn Leu Asn Arg Gln Tyr Leu Lys Pro Asp Ala
    305                    310                    315                    320
Val Leu His Pro Ala Ile Tyr Gly Ala Lys Ala Val Leu Leu Tyr His
                325                    330                    335
His Val His Ser Arg Leu Asn Ser Gln Ser Ser Ser Glu His Gln Pro
                340                    345                    350
Ser Ser Cys Leu Pro Pro Asp Ala Pro Val Ser Asp Leu Glu Lys Ala
                355                    360                    365
Asn Asn Leu Gln Asn Glu Ala Gln Cys Gly His Ser Ala Asp Arg His
        370                    375                    380
Asn Ala Glu Ala Trp Lys Gln Thr Glu Pro Ala Glu Gln Lys Leu Asn
    385                    390                    395                    400
Ser Val Trp Ile Met Pro Gln Gln Ser Ala Gly Leu Glu Glu Ser Ala
                405                    410                    415
Pro Asp Thr Ile Pro Pro Lys Glu Ser Gly Val Ala Tyr Tyr Val Asp
                420                    425                    430
Leu His Gly His Ala Ser Lys Arg Gly Cys Phe Met Tyr Gly Asn Ser
        435                    440                    445
Phe Ser Asp Glu Ser Thr Gln Val Glu Asn Met Leu Tyr Pro Lys Leu
    450                    455                    460
Ile Ser Leu Asn Ser Ala His Phe Asp Phe Gln Gly Cys Asn Phe Ser
465                    470                    475                    480
Glu Lys Asn Met Tyr Ala Arg Asp Arg Arg Asp Gly Gln Ser Lys Glu
                485                    490                    495
Gly Ser Gly Arg Val Ala Ile Tyr Lys Ala Ser Gly Ile Ile His Ser
            500                    505                    510
Tyr Thr Leu Glu Cys Asn Tyr Asn Thr Gly Arg Ser Val Asn Ser Ile
            515                    520                    525
Pro Ala Ala Cys His Asp Asn Gly Arg Ala Ser Pro Pro Pro Pro Pro
        530                    535                    540
Ala Phe Pro Ser Arg Tyr Thr Val Glu Leu Phe Glu Gln Val Gly Arg
    545                    550                    555                    560
Ala Met Ala Ile Ala Ala Leu Asp Met Ala Glu Cys Asn Pro Trp Pro
                565                    570                    575
Arg Ile Val Leu Ser Glu His Ser Ser Leu Thr Asn Leu Arg Ala Trp
            580                    585                    590
Met Leu Lys His Val Arg Asn Ser Arg Gly Leu Ser Ser Thr Leu Asn
            595                    600                    605
Val Gly Val Asn Lys Lys Arg Gly Leu Arg Thr Pro Pro Lys Ser His
        610                    615                    620
Asn Gly Leu Pro Val Ser Cys Ser Glu Asn Thr Leu Ser Arg Ala Arg
    625                    630                    635                    640
Ser Phe Ser Thr Gly Thr Ser Ala Gly Gly Ser Ser Ser Ser Gln Gln
                645                    650                    655
Asn Ser Pro Gln Met Lys Asn Ser Pro Ser Phe Pro Phe His Gly Ser
```

3499

```
              660                    665                    670
Arg Pro Ala Gly Leu Pro Gly Leu Gly Ser Ser Thr Gln Lys Val Thr
              675                    680                    685
His Arg Val Leu Gly Pro Val Arg Gly Lys Pro Val Trp Glu Pro Leu
          690                    695                    700
Gln His Val Phe Gly Cys Leu Gly His Cys Trp Gly Lys
705                    710                    715
```

```
<210> 4303
<211> 768
<212> DNA
<213> Homo sapiens
```

```
<400> 4303
acgcgtgcag caagagagct ggacaatctg cagtatcgaa agatgaagaa actccttttc
60
caggaggcac ataatggacc agcagtagaa gcacaggaag aagaagagga acaagatcat
120
ggtgttggcc ggacaggaac agttaatagt gttggaagta atcaatccat tcccagcatg
180
tccatcagtg ccagcagcca aagcagtagt gttaacagtc ttccagatgt ctcagatgac
240
aagagtgagc tagacatgat ggagggagac cacacagtga tgtctaacag ttctgttatc
300
catttaaaac cagaggaaga aaattacaga gaagagggag atcctagaac aagagcatca
360
gatccacaat ctccacccca agtatctcgt cacaaatcac actatcgtaa tcgagaacac
420
tttgctacta tacggacagc atcactggtt acgaggcaaa tgcaagaaca tgagcaggac
480
tctgagctta gagaacaaat gtctggctat aagcgaatga ggcgacaaca tcaaaagcaa
540
ctgatgactc tggaaaacaa gctaaaggct gagatggatg aacatcgcct cagattagac
600
aaagatcttg aaactcagcg taacaatttt gctgcagaaa tggagaaact tatcaagaaa
660
caccaggctg ctatggagaa agaggctaaa gtgatgtcca atgaagagaa aaaatttcag
720
caacatattc aggcccaaca gaagaaagaa ctgaatagtt ttctcgag
768
```

```
<210> 4304
<211> 256
<212> PRT
<213> Homo sapiens
```

```
<400> 4304
Thr Arg Ala Ala Arg Glu Leu Asp Asn Leu Gln Tyr Arg Lys Met Lys
  1               5                  10                 15
Lys Leu Leu Phe Gln Glu Ala His Asn Gly Pro Ala Val Glu Ala Gln
              20                  25                 30
Glu Glu Glu Glu Glu Gln Asp His Gly Val Gly Arg Thr Gly Thr Val
          35                  40                 45
Asn Ser Val Gly Ser Asn Gln Ser Ile Pro Ser Met Ser Ile Ser Ala
```

3500

```
                50                      55                      60
      Ser Ser Gln Ser Ser Ser Val Asn Ser Leu Pro Asp Val Ser Asp Asp
      65                      70                      75                      80
      Lys Ser Glu Leu Asp Met Met Glu Gly Asp His Thr Val Met Ser Asn
                              85                      90                      95
      Ser Ser Val Ile His Leu Lys Pro Glu Glu Glu Asn Tyr Arg Glu Glu
                        100                     105                     110
      Gly Asp Pro Arg Thr Arg Ala Ser Asp Pro Gln Ser Pro Pro Gln Val
                  115                     120                     125
      Ser Arg His Lys Ser His Tyr Arg Asn Arg Glu His Phe Ala Thr Ile
            130                     135                     140
      Arg Thr Ala Ser Leu Val Thr Arg Gln Met Gln Glu His Glu Gln Asp
      145                     150                     155                     160
      Ser Glu Leu Arg Glu Gln Met Ser Gly Tyr Lys Arg Met Arg Arg Gln
                        165                     170                     175
      His Gln Lys Gln Leu Met Thr Leu Glu Asn Lys Leu Lys Ala Glu Met
                        180                     185                     190
      Asp Glu His Arg Leu Arg Leu Asp Lys Asp Leu Glu Thr Gln Arg Asn
                  195                     200                     205
      Asn Phe Ala Ala Glu Met Glu Lys Leu Ile Lys Lys His Gln Ala Ala
            210                     215                     220
      Met Glu Lys Glu Ala Lys Val Met Ser Asn Glu Glu Lys Lys Phe Gln
      225                     230                     235                     240
      Gln His Ile Gln Ala Gln Gln Lys Lys Glu Leu Asn Ser Phe Leu Glu
                  245                     250                     255
```

<210> 4305
<211> 3400
<212> DNA
<213> Homo sapiens

<400> 4305
```
atggctggga tggacagtgg caacctgaag accgcgaggc tgtggcggga cgccgccctg
60
cgtgccagga agctgcggag caacctgcgc cagctcacgc tcaccgccgc cggggcctgc
120
cccggggccg gggccgacgc gctcgagtcc cccgcctccc cccagctcgt gctgccggcc
180
aacctcgggg acattgaggc actgaacctg gggaacaacg gcctggagga ggtacccgag
240
gggctggggt cggcgctggg cagcctgcgc gtcctggtcc tgcgcaggaa ccgcttcgcc
300
cggctgcccc ggcggtggc cgagctcggc caccacctca ccgagctgga cgtgagccac
360
aaccggctga ccgccctggg cgcggaggtg gtgagtgctc tgagggagct gcggaagctc
420
aacctcagcc acaaccagct gcccgccctg cccgcccagc tgggcgctct cgctcacctg
480
gaggagctgg atgtcagctt taaccggctg gcgcacctgc ctgactccct ctcctgcctc
540
tcccgcctgc gcaccctgga cgtggatcac aaccagctca ctgccttccc ccggcagctg
600
ctgcagctgg tggccctgga ggagctggac gtgtccagca accggctgcg gggcctgcct
660
```

```
gaggatatca gtgccctgcg tgccctcaag atcctctggc tgagtggggc cgagcttggc
720
acgctgcccg ccggcttctg cgagctggcc agtttggaga gcctcatgct agacaacaac
780
gggctgcagg ctctgcccgc ccagttcagc tgcctgcagc ggctcaaaat gctcaacctg
840
tcctccaacc tcttcgagga gttccctgcc gcgctgctgc ccctggctgg tctggaggag
900
ctctacctta gtcgcaacca gctcacctcg gtgccatccc ttatctcggg cctgggccgg
960
cttctcacct tgtggctgga taataaccgc atccgctacc tgccggactc catcgtggag
1020
ctgaccggcc tggaggagct cgtgctgcag gggaaccaga tcgcggtgct gcccgaccac
1080
tttggccagc tctcccgggt gggtttgtgg aagatcaaag acaacccact gatccagccc
1140
ccctacgagg tctgcatgaa ggggatcccc tacatcgcag cctaccagaa ggaactggct
1200
cattcccagc cggcggtgca gccccggctc aagctgctcc tgatggggca taaggctgca
1260
ggaaagactt tgctgcgcca ctgcctcacc gaggagagag tggagggatg cccaggagga
1320
ggggacaagg agaagtgcta cccaccgtca cctccccctg tgagcaaggg catcgaggtg
1380
accagctgga cggccgatgc ctcccggggc ctgcggttca tcgtgtatga cttagctggg
1440
gatgaaagtt atgaggtgat ccagcccttc ttcctgtccc caggggccct atacgtgctg
1500
gtggtcaact tggccaccta tgagcctcgc cactttccta ccaccgtggg ctccttcttg
1560
catcgggtcg gggcgagagt gcccaacgcg gtggtgtgca tcgtgggcac ccacgcagac
1620
ctgtgcggag agcgtgagct ggaggagaaa tgtctggaca ttcaccgcca gatcgccctg
1680
caggagaagc acgacgcgga gggactgagc cgcttggcca aggtggtgga cgaggcactg
1740
gcccgggact tcgagctgcg ctctgccagc ccccacgcag cctactatgg cgtttcggac
1800
aagaaccttc gacggcgcaa ggcccatttt caatacctgc tcaaccaccg gctgcagatc
1860
ctctcccccg tgttgcctgt tagctgcagg gacccgcgcc acttacgacg ccttcgggac
1920
aagttgctgt cagttgctga gcaccgagag atcttcccca acttacacag agtactgcct
1980
cgatcctggc aggtgctgga ggaactgcat ttccagccac ctcaggccca gcgactgtgg
2040
ctaagctggt gggactcggc gcgcttgggc ctgcaggcgg tctgaccga ggaccgactg
2100
cagagtgccc tctcctacct gcatgagagc ggcaagctac tctactttga ggacagtccg
2160
gctctcaagg agcacgtctt ccacaacctc acccgcctca tcgacatcct caatgtcttc
2220
ttccagaggg atccctcttt gctgctgcat aagctgctcc tagggaccag tggagagggc
2280
```

```
aaggcggagg gggaaagctc cccgcccatg gcgcggtcca cccccagcca ggaactgctc
2340
cgggccacccc agctccatca gtatgtggag ggctttctgt tgcatgggct cttgccagct
2400
catgtcattc ggttgctgct taagcctcat gtccaggccc agcaggactt gcagctgttg
2460
ctggagctgc tggagaagat gggactctgt tactgcctca ataaacccaa gggcaagcct
2520
ttgaatgggt ccacagcttg gtacaagttc ccatgctatg tgcagaacga ggtgccccat
2580
gcagaagcct ggattaatgg gaccaaccta gctgggcagt cttttgtggc tgagcagttg
2640
cagattgaat atagctttcc ttttactttt ccacctgggt tgtttgcacg ctacagtgtc
2700
cagatcaaca gccatgtggt gcacaggtcg gatggtaaat ttcagatctt tgcctataga
2760
gggaaagttc ctgtggttgt gagttacaga cctgccaggg gagtcctgca gccagacacc
2820
ctgtccattg ctagccatgc atcattacca aatatatgga ccgcatggca agccataacc
2880
cccttggtgg aggaactgaa tgtcctactt caggaatggc ctggactgca ctacaccgtg
2940
cacattctct gttctaagtg ccttaagaga ggatcgccca atccacatgc ttttccaggg
3000
gagttgctga gtcagcccag accggaagga gtggcagaga tcatttgccc caagaacggc
3060
agcgagcgag taaatgttgc cttggtttac ccacccacgc cgactgtgat cagcccctgt
3120
tccaagaaga atgttggtga aaagcacaga aaccagtgac gtttgtggct gtggaatttc
3180
catggagaaa agagagcatc tgaacacctg gaccatcttt tgcacctggc agaccctctg
3240
cactcacccc agcgtgttct gtgaacttga gtgacaacgc gtgcttgcag ggtgcttttt
3300
ggatgactgg ggaagaggtg gggagagggg tggtgggggg aagcatggac gagaacatgg
3360
agcaaatgtt ttacaacctg aacctcagaa ctgtgatctc
3400
```

`<210> 4306`
`<211> 1052`
`<212> PRT`
`<213> Homo sapiens`

`<400> 4306`

```
Met Ala Gly Met Asp Ser Gly Asn Leu Lys Thr Ala Arg Leu Trp Arg
1               5                   10                  15
Asp Ala Ala Leu Arg Ala Arg Lys Leu Arg Ser Asn Leu Arg Gln Leu
            20                  25                  30
Thr Leu Thr Ala Ala Gly Ala Cys Pro Gly Ala Gly Ala Asp Ala Leu
        35                  40                  45
Glu Ser Pro Ala Ser Pro Gln Leu Val Leu Pro Ala Asn Leu Gly Asp
    50                  55                  60
Ile Glu Ala Leu Asn Leu Gly Asn Asn Gly Leu Glu Glu Val Pro Glu
```

3503

```
65                    70                    75                    80
Gly Leu Gly Ser Ala Leu Gly Ser Leu Arg Val Leu Val Leu Arg Arg
                85                    90                    95
Asn Arg Phe Ala Arg Leu Pro Pro Ala Val Ala Glu Leu Gly His His
               100                   105                   110
Leu Thr Glu Leu Asp Val Ser His Asn Arg Leu Thr Ala Leu Gly Ala
               115                   120                   125
Glu Val Val Ser Ala Leu Arg Glu Leu Arg Lys Leu Asn Leu Ser His
           130                   135                   140
Asn Gln Leu Pro Ala Leu Pro Ala Gln Leu Gly Ala Leu Ala His Leu
       145                   150                   155                   160
Glu Glu Leu Asp Val Ser Phe Asn Arg Leu Ala His Leu Pro Asp Ser
                   165                   170                   175
Leu Ser Cys Leu Ser Arg Leu Arg Thr Leu Asp Val Asp His Asn Gln
               180                   185                   190
Leu Thr Ala Phe Pro Arg Gln Leu Leu Gln Leu Val Ala Leu Glu Glu
               195                   200                   205
Leu Asp Val Ser Ser Asn Arg Leu Arg Gly Leu Pro Glu Asp Ile Ser
       210                   215                   220
Ala Leu Arg Ala Leu Lys Ile Leu Trp Leu Ser Gly Ala Glu Leu Gly
   225                   230                   235                   240
Thr Leu Pro Ala Gly Phe Cys Glu Leu Ala Ser Leu Glu Ser Leu Met
               245                   250                   255
Leu Asp Asn Asn Gly Leu Gln Ala Leu Pro Ala Gln Phe Ser Cys Leu
               260                   265                   270
Gln Arg Leu Lys Met Leu Asn Leu Ser Ser Asn Leu Phe Glu Glu Phe
           275                   280                   285
Pro Ala Ala Leu Leu Pro Leu Ala Gly Leu Glu Glu Leu Tyr Leu Ser
       290                   295                   300
Arg Asn Gln Leu Thr Ser Val Pro Ser Leu Ile Ser Gly Leu Gly Arg
   305                   310                   315                   320
Leu Leu Thr Leu Trp Leu Asp Asn Asn Arg Ile Arg Tyr Leu Pro Asp
               325                   330                   335
Ser Ile Val Glu Leu Thr Gly Leu Glu Glu Leu Val Leu Gln Gly Asn
               340                   345                   350
Gln Ile Ala Val Leu Pro Asp His Phe Gly Gln Leu Ser Arg Val Gly
               355                   360                   365
Leu Trp Lys Ile Lys Asp Asn Pro Leu Ile Gln Pro Pro Tyr Glu Val
       370                   375                   380
Cys Met Lys Gly Ile Pro Tyr Ile Ala Ala Tyr Gln Lys Glu Leu Ala
   385                   390                   395                   400
His Ser Gln Pro Ala Val Gln Pro Arg Leu Lys Leu Leu Leu Met Gly
               405                   410                   415
His Lys Ala Ala Gly Lys Thr Leu Leu Arg His Cys Leu Thr Glu Glu
               420                   425                   430
Arg Val Glu Gly Cys Pro Gly Gly Gly Asp Lys Glu Lys Cys Tyr Pro
           435                   440                   445
Pro Ser Pro Pro Pro Val Ser Lys Gly Ile Glu Val Thr Ser Trp Thr
       450                   455                   460
Ala Asp Ala Ser Arg Gly Leu Arg Phe Ile Val Tyr Asp Leu Ala Gly
   465                   470                   475                   480
Asp Glu Ser Tyr Glu Val Ile Gln Pro Phe Phe Leu Ser Pro Gly Ala
               485                   490                   495
Leu Tyr Val Leu Val Val Asn Leu Ala Thr Tyr Glu Pro Arg His Phe
```

```
                 500                    505                    510
Pro Thr Thr Val Gly Ser Phe Leu His Arg Val Gly Ala Arg Val Pro
    515                    520                    525
Asn Ala Val Val Cys Ile Val Gly Thr His Ala Asp Leu Cys Gly Glu
    530                    535                    540
Arg Glu Leu Glu Glu Lys Cys Leu Asp Ile His Arg Gln Ile Ala Leu
545                    550                    555                    560
Gln Glu Lys His Asp Ala Glu Gly Leu Ser Arg Leu Ala Lys Val Val
                565                    570                    575
Asp Glu Ala Leu Ala Arg Asp Phe Glu Leu Arg Ser Ala Ser Pro His
            580                    585                    590
Ala Ala Tyr Tyr Gly Val Ser Asp Lys Asn Leu Arg Arg Arg Lys Ala
        595                    600                    605
His Phe Gln Tyr Leu Leu Asn His Arg Leu Gln Ile Leu Ser Pro Val
    610                    615                    620
Leu Pro Val Ser Cys Arg Asp Pro Arg His Leu Arg Arg Leu Arg Asp
625                    630                    635                    640
Lys Leu Leu Ser Val Ala Glu His Glu Ile Phe Pro Asn Leu His
                645                    650                    655
Arg Val Leu Pro Arg Ser Trp Gln Val Leu Glu Glu Leu His Phe Gln
            660                    665                    670
Pro Pro Gln Ala Gln Arg Leu Trp Leu Ser Trp Trp Asp Ser Ala Arg
        675                    680                    685
Leu Gly Leu Gln Ala Gly Leu Thr Glu Asp Arg Leu Gln Ser Ala Leu
    690                    695                    700
Ser Tyr Leu His Glu Ser Gly Lys Leu Leu Tyr Phe Glu Asp Ser Pro
705                    710                    715                    720
Ala Leu Lys Glu His Val Phe His Asn Leu Thr Arg Leu Ile Asp Ile
                725                    730                    735
Leu Asn Val Phe Phe Gln Arg Asp Pro Ser Leu Leu Leu His Lys Leu
            740                    745                    750
Leu Leu Gly Thr Ser Gly Glu Gly Lys Ala Glu Gly Glu Ser Ser Pro
        755                    760                    765
Pro Met Ala Arg Ser Thr Pro Ser Gln Glu Leu Leu Arg Ala Thr Gln
    770                    775                    780
Leu His Gln Tyr Val Glu Gly Phe Leu Leu His Gly Leu Leu Pro Ala
785                    790                    795                    800
His Val Ile Arg Leu Leu Leu Lys Pro His Val Gln Ala Gln Gln Asp
                805                    810                    815
Leu Gln Leu Leu Leu Glu Leu Leu Glu Lys Met Gly Leu Cys Tyr Cys
            820                    825                    830
Leu Asn Lys Pro Lys Gly Lys Pro Leu Asn Gly Ser Thr Ala Trp Tyr
        835                    840                    845
Lys Phe Pro Cys Tyr Val Gln Asn Glu Val Pro His Ala Glu Ala Trp
    850                    855                    860
Ile Asn Gly Thr Asn Leu Ala Gly Gln Ser Phe Val Ala Glu Gln Leu
865                    870                    875                    880
Gln Ile Glu Tyr Ser Phe Pro Phe Thr Phe Pro Pro Gly Leu Phe Ala
                885                    890                    895
Arg Tyr Ser Val Gln Ile Asn Ser His Val Val His Arg Ser Asp Gly
            900                    905                    910
Lys Phe Gln Ile Phe Ala Tyr Arg Gly Lys Val Pro Val Val Val Ser
        915                    920                    925
Tyr Arg Pro Ala Arg Gly Val Leu Gln Pro Asp Thr Leu Ser Ile Ala
```

3505

```
      930                   935                   940
Ser His Ala Ser Leu Pro Asn Ile Trp Thr Ala Trp Gln Ala Ile Thr
945                   950                   955                   960
Pro Leu Val Glu Glu Leu Asn Val Leu Leu Gln Glu Trp Pro Gly Leu
                  965                   970                   975
His Tyr Thr Val His Ile Leu Cys Ser Lys Cys Leu Lys Arg Gly Ser
                  980                   985                   990
Pro Asn Pro His Ala Phe Pro Gly Glu Leu Leu Ser Gln Pro Arg Pro
              995                  1000                  1005
Glu Gly Val Ala Glu Ile Ile Cys Pro Lys Asn Gly Ser Glu Arg Val
             1010                  1015                  1020
Asn Val Ala Leu Val Tyr Pro Pro Thr Pro Thr Val Ile Ser Pro Cys
1025                  1030                  1035                  1040
Ser Lys Lys Asn Val Gly Glu Lys His Arg Asn Gln
                  1045                  1050
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<210> 4307
<211> 947
<212> DNA
<213> Homo sapiens

<400> 4307
tgtacagcct gcagaggacc agccctgaaa agaatgagag agtccgccag atgcgccccg
60
tgtgtgactg ccaggctcac ctgctctgga accggcctcg gtttggagag atcaatgacc
120
aggacagaac tgatcgatac gtccaggctc tgaggaccgt ctctctcctc ctgggcgagc
180
cgttcttcac taccagcctg ctgccgtggc acaacctcta cttctggtac gtgcggacgc
240
tgtggaccag cacctggggc caggtgccat ggtgatgccc caggcagcct cgctgcacgc
300
tgtggttgtg gagttcaggg tgtgcaggga acagcaagat gtgcctcttg ttcttgctgc
360
cacgcttccc tgtgtcctgc gggcgggtgt ggatggggct gctccttcct cacaggancc
420
tgtggcggat ccggagccnc ctgtggtgac tgcgaaggct tcgacgtgca catcatggat
480
gacatgatta aggtaggcag ggccacactc tgcatagtcc ccccgacctg ctcctgtatc
540
gcaggcctct cacagggtcc cagcttgggc agcacaggct cttctgttgg gggcagtgag
600
gtcaggtgct gccattttgt gtggttcaac atgagcattg cttggtacca gccctgttct
660
tggctccgtg ctgtcaccct gtgtcagaat ctccactggg cctgcacgtc ctgtcattgc
720
aactgcccct gccagtgccc acagcttctt ttctagtggg gctgactttc cagaggccat
780
ctgggaacct tcttaggcag ccatttccat ggtggggggct ccattcccgg gaggggtacc
840
tgaggagatt cccacaggtt atttacatgg tagggttag caactgggcc tacgttctcc
900
agaaccatgg gctgtcctga cagcgccagt ggtccttgga ttcatga
947
```

<210> 4308
<211> 200
<212> PRT
<213> Homo sapiens

<400> 4308

```
Gly Pro Ser Leu Ser Ser Trp Ala Ser Arg Ser Ser Leu Pro Ala Cys
1               5                   10                  15
Cys Arg Gly Thr Thr Ser Thr Ser Gly Thr Cys Gly Arg Cys Gly Pro
            20                  25                  30
Ala Pro Gly Ala Arg Cys His Gly Asp Ala Pro Gly Ser Leu Ala Ala
            35                  40                  45
Arg Cys Gly Cys Gly Val Gln Gly Val Gln Gly Thr Ala Arg Cys Ala
        50                  55                  60
Ser Cys Ser Cys Cys His Ala Ser Leu Cys Pro Ala Gly Gly Cys Gly
65                  70                  75                  80
Trp Gly Cys Ser Phe Leu Thr Gly Xaa Cys Gly Gly Ser Gly Ala Xaa
                85                  90                  95
Cys Gly Asp Cys Glu Gly Phe Asp Val His Ile Met Asp Asp Met Ile
            100                 105                 110
Lys Val Gly Arg Ala Thr Leu Cys Ile Val Pro Pro Thr Cys Ser Cys
            115                 120                 125
Ile Ala Gly Leu Ser Gln Gly Pro Ser Leu Gly Ser Thr Gly Ser Ser
            130                 135                 140
Val Gly Gly Ser Glu Val Arg Cys Cys His Phe Val Trp Phe Asn Met
145                 150                 155                 160
Ser Ile Ala Trp Tyr Gln Pro Cys Ser Trp Leu Arg Ala Val Thr Leu
                165                 170                 175
Cys Gln Asn Leu His Trp Ala Cys Thr Ser Cys His Cys Asn Cys Pro
            180                 185                 190
Cys Gln Cys Pro Gln Leu Leu Phe
            195             200
```

<210> 4309
<211> 1928
<212> DNA
<213> Homo sapiens

<400> 4309

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tttttttttg agttactggc catttgaggt atttattaat gaagattaaa catccaaagg
60
gcagtcctca atgctcattt ccatgatttt aagagttgat aactccatgt catgattatt
120
gtcgcctttg acactggaga actgaacaga ttgggagggt gatgtgttaa gaccacataa
180
tccatttgaa atctcaacct tttcagggtc actatcacct tcaatgacat tcacagaagt
240
ttcccgatct gttaaactgt ctgaaatact tggatgattt catccaaag ttgaagtttc
300
aagatttgtt tcatcattca cctgttgaat tataaccct tctgaatgct ttgatttata
360
aataggcatg aaaaattcag ttggtgaagg gaatatctcg ttctcatcct ttggtgccga
420
```

```
caataacata tccaaagcct tttggtattg ttgacgttcc tgctgaattg ttacttcact
480
ttcatttttt aattcatttg gttctgaatt cccagccttt tcaaaatcaa atacattcaa
540
catatcaaca tcattttgct ttaccgagtt ttcctccgat gtgcagccta agtctacttt
600
caggacatgc agcaggtggc gcattttttc ctcctccaaa tgtttatttt gttttatatg
660
tcgctcgaac agtcgttcta aaaacctgtt tgaaaataaa ccaagtttca aaatttcatc
720
tgttacatct tcaatgaaac tcagatacaa cagttcttct tcatcagagt agattttacg
780
agttgaaggg ggcttcaggg aatactgaca cattgccctt ggtgaggaat gctgaagagc
840
atcatcctta atctcatccc atgttgagtc atgcccttct aaaggtaaag gagctatttt
900
ttctttggca tcatatgtca cacaattaga tgcctgcttt atgttcattt ctgaatctgt
960
catgttttta gtctcagctg tccccaactc agatttaaag cttaattcag tctgggtttc
1020
agcttctatc cgttgatctg taaaatcctt ttttcttttg gcaggtgtat aatagcgata
1080
ctgtgacagg aaagattttg cttctgtttt taaagtgcga ggagtgaatg caattgtttt
1140
gttagaaaag agttcagaat gtttatccaa aagatcccca ctgggtgctt tcgaaatgac
1200
taactgaaac cggtgggaat ttgggaatgt gcttctgggc cttctgccat acagggctcc
1260
agagctcagt ttccggggcc cggaggctgc ataatccaca ctggacgggg aggaactgga
1320
gttcttctca ggaccatttg tgatgacttt actggattta tgtagactta ggtgtagtct
1380
ctctgaagag ggtactagtg accttgcaaa ggatgaaaat ccattcattt cttcttttaa
1440
catgtcatcc tcaatttgcg gttcgcctga gggcttttgt aaggtattaa aaagtgactt
1500
ggaattattt ttataattgg ctcgcattgc agttttagtt aatttgaact cttttttcaca
1560
ttgtgctaat tccttttttga gtttctctct tcgttgttgg tctgcatact ttatgctggt
1620
actcacgctt actggaaccg agcagtctac tgcagctttg gctgaaagga ttttattata
1680
gtgaacagcc atgtgattct tgaccagctg gagagtgctt agtctgagag aagaggagtc
1740
agtgcaaaaa gcattacttt tggtgctcaa gtgtccttta aataggcacg gtggaccata
1800
tctgggaagg acagaggttg ctctgactct ccggctgcca ttcatgctta gtcctcttgc
1860
agccgccgca gggacacgct gtataccctt cggtccttcc cgcgccgccc accccggcag
1920
tggaggac
1928
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<210> 4310

<211> 599
<212> PRT
<213> Homo sapiens

<400> 4310
Met Asn Gly Ser Arg Arg Val Arg Ala Thr Ser Val Leu Pro Arg Tyr
1   5   10   15
Gly Pro Pro Cys Leu Phe Lys Gly His Leu Ser Thr Lys Ser Asn Ala
            20   25   30
Phe Cys Thr Asp Ser Ser Ser Leu Arg Leu Ser Thr Leu Gln Leu Val
        35   40   45
Lys Asn His Met Ala Val His Tyr Asn Lys Ile Leu Ser Ala Lys Ala
    50   55   60
Ala Val Asp Cys Ser Val Pro Val Ser Val Ser Thr Ser Ile Lys Tyr
65   70   75   80
Ala Asp Gln Gln Arg Arg Glu Lys Leu Lys Lys Glu Leu Ala Gln Cys
                85   90   95
Glu Lys Glu Phe Lys Leu Thr Lys Thr Ala Met Arg Ala Asn Tyr Lys
            100   105   110
Asn Asn Ser Lys Ser Leu Phe Asn Thr Leu Gln Lys Pro Ser Gly Glu
            115   120   125
Pro Gln Ile Glu Asp Asp Met Leu Lys Glu Glu Met Asn Gly Phe Ser
    130   135   140
Ser Phe Ala Arg Ser Leu Val Pro Ser Ser Glu Arg Leu His Leu Ser
145   150   155   160
Leu His Lys Ser Ser Lys Val Ile Thr Asn Gly Pro Glu Lys Asn Ser
                165   170   175
Ser Ser Ser Pro Ser Ser Val Asp Tyr Ala Ala Ser Gly Pro Arg Lys
            180   185   190
Leu Ser Ser Gly Ala Leu Tyr Gly Arg Arg Pro Arg Ser Thr Phe Pro
            195   200   205
Asn Ser His Arg Phe Gln Leu Val Ile Ser Lys Ala Pro Ser Gly Asp
    210   215   220
Leu Leu Asp Lys His Ser Glu Leu Phe Ser Asn Lys Gln Leu Pro Phe
225   230   235   240
Thr Pro Arg Thr Leu Lys Thr Glu Ala Lys Ser Phe Leu Ser Gln Tyr
                245   250   255
Arg Tyr Tyr Thr Pro Ala Lys Arg Lys Lys Asp Phe Thr Asp Gln Arg
                260   265   270
Ile Glu Ala Glu Thr Gln Thr Glu Leu Ser Phe Lys Ser Glu Leu Gly
            275   280   285
Thr Ala Glu Thr Lys Asn Met Thr Asp Ser Glu Met Asn Ile Lys Gln
            290   295   300
Ala Ser Asn Cys Val Thr Tyr Asp Ala Lys Glu Lys Ile Ala Pro Leu
305   310   315   320
Pro Leu Glu Gly His Asp Ser Thr Trp Asp Glu Ile Lys Asp Asp Ala
                325   330   335
Leu Gln His Ser Ser Pro Arg Ala Met Cys Gln Tyr Ser Leu Lys Pro
            340   345   350
Pro Ser Thr Arg Lys Ile Tyr Ser Asp Glu Glu Glu Leu Leu Tyr Leu
            355   360   365
Ser Phe Ile Glu Asp Val Thr Asp Glu Ile Leu Lys Leu Gly Leu Phe
    370   375   380
Ser Asn Arg Phe Leu Glu Arg Leu Phe Glu Arg His Ile Lys Gln Asn

```
385                     390                     395                     400
Lys His Leu Glu Glu Glu Lys Met Arg His Leu Leu His Val Leu Lys
                405                     410                     415
Val Asp Leu Gly Cys Thr Ser Glu Glu Asn Ser Val Lys Gln Asn Asp
                420                     425                     430
Val Asp Met Leu Asn Val Phe Asp Phe Glu Lys Ala Gly Asn Ser Glu
            435                     440                     445
Pro Asn Glu Leu Lys Asn Glu Ser Glu Val Thr Ile Gln Gln Glu Arg
        450                     455                     460
Gln Gln Tyr Gln Lys Ala Leu Asp Met Leu Leu Ser Ala Pro Lys Asp
465                     470                     475                     480
Glu Asn Glu Ile Phe Pro Ser Pro Thr Glu Phe Phe Met Pro Ile Tyr
                485                     490                     495
Lys Ser Lys His Ser Glu Gly Val Ile Ile Gln Gln Val Asn Asp Glu
            500                     505                     510
Thr Asn Leu Glu Thr Ser Thr Leu Asp Glu Asn His Pro Ser Ile Ser
            515                     520                     525
Asp Ser Leu Thr Asp Arg Glu Thr Ser Val Asn Val Ile Glu Gly Asp
        530                     535                     540
Ser Asp Pro Glu Lys Val Glu Ile Ser Asn Gly Leu Cys Gly Leu Asn
545                     550                     555                     560
Thr Ser Pro Ser Gln Ser Val Gln Phe Ser Ser Val Lys Gly Asp Asn
                565                     570                     575
Asn His Asp Met Glu Leu Ser Thr Leu Lys Ile Met Glu Met Ser Ile
            580                     585                     590
Glu Asp Cys Pro Leu Asp Val
            595
```

```
<210> 4311
<211> 432
<212> DNA
<213> Homo sapiens

<400> 4311
nnacgcgtga agggcattcg cccttggaat tgtcagcgat gttttgcaca ttatgatgtc
60
cagagcattt tgtttaatat caacgaagcc atggctacga gggctaatgt ggggaaaagg
120
aaaaacataa ccactggggc atctgcagca tcccagactc agatgcctac gggccagaca
180
ggcaactgtg agtcccttt agggagcaag gaggacctca actccaaaga gaacctggat
240
gccgatgagg gagatgggaa aagtaacgac ctcgtcctta gttgtcctta ctttagaaat
300
gagactggag gggaaggcga caggcggatt cgctctctc gagccaactc atcctctttc
360
agttctgggg aaagctgctc tttcgaatcg tcactcagct ctcactgcac aaatgcaggt
420
gtctccgtct tg
432

<210> 4312
<211> 144
<212> PRT
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